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ONKYO

ON/STANDBY

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- NIGHTCRAWLER
- THE BABADOOK
- THE AVENGERS: S4
- ANNABELLE

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Sharp's 60in Ultra HD TV rated



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How Interstellar pushes the sci-fi genre to its limits

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04

## Cinema design, re-defined

"If you're serious about home cinema at the premium level then these need to be on your shortlist"

"The soundstage created is both wide and deep, able to involve you unhesitatingly in the onscreen action"

"The Artcoustic system has a handy knack of revelling in quiet periods, painting a sonic picture, before bursting into life with shocking dynamism"

Home Cinema Choice, May 2014

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# HOME CINEMA Choice

www.homecinemachoice.com

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If you don't want to miss an issue



*Interstellar*  
– ready to  
make waves on  
Blu-ray, p34

# WELCOME

A pleasant surprise at this year's Sound & Vision: The Bristol Show (see p22) was the number of Dolby Atmos demos to be heard. Yamaha, Pioneer, Monitor Audio, KEF and Onkyo all gave show-goers a taste of the 3D sound format. For many, it will have been their first Atmos experience, but considering how effective all the presentations were, I'm certain that for some it won't be their last.

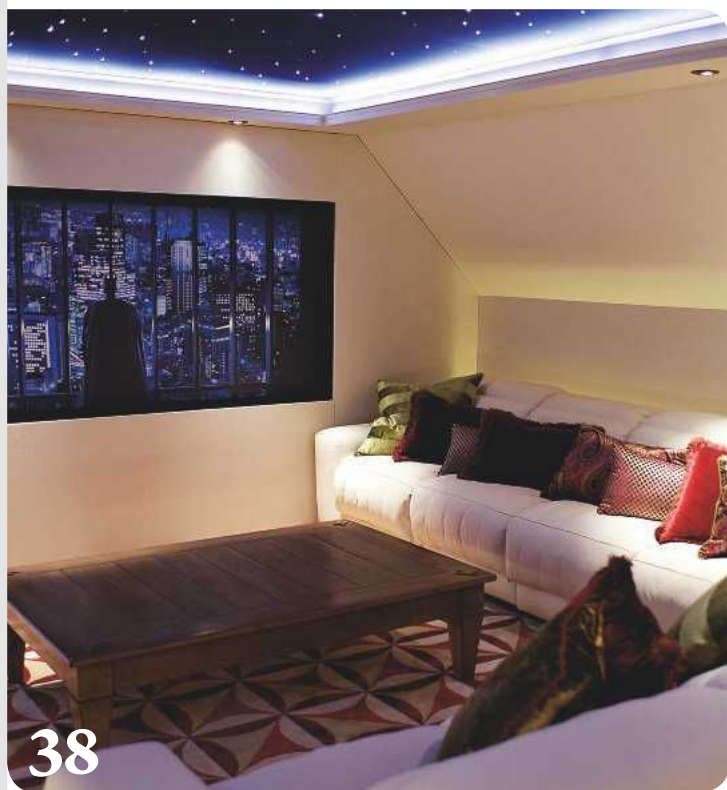


This issue our cover star is Onkyo's barnstorming TX-NR3030 AV receiver – **a high-end model with serious Atmos ambitions**. Courtesy of its 11 amp channels, it offers the easiest way yet to run a full 7.1.4 Atmos system, and it packs some state-of-the-art chippiness that makes it ready to roll with the incoming 4K Blu-ray standard. Okay, at £2,500 it's hardly an impulse purchase, but if you're seeking an awesome audio upgrade it needs to be on your shortlist. Run, don't walk, to our review on p44.

*Mark Craven*  
Editor



# MENU



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**John Archer:**  
The UK's most experienced TV tester cut his teeth as an early HCC staffer



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The UK's foremost expert in extreme audio writes about bass, hi-fi and, er, cartoons



**Adrian Justins:**  
Made his name as the editor of *What Video & TV* and *What Home Cinema*

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**WIN!**  
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92in screen  
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'Onkyo's TX-NR3030  
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high-octane home theatre'



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# "BARNSTORMERS"

## SVS 2000 Series Active Subs



“Feed it a movie soundmix and the SB-2000 provides hair-raising levels of low-frequency fun...smartly designed, easy to setup and a treat to listen to.”



“The SVS (PB-2000) is able to integrate with pretty much any speaker in a way that is deliciously seamless. This all-round ability makes the SVS something of a star.”

Ed Selley  
Home Cinema Choice  
Feb 2015





# BULLETIN

→ **News Highlights** **EPSON** Laser projector targets high-end home cinemas  
**SONY** Making Smart TV smarter with integrated YouView **SKY ON 4K** 'Don't believe everything you read in the papers...' **GOING LARGE** Figures show booming market for 50in+ TVs **NEWS X10** The hottest news stories in bite-size chunks **EXODUS: GODS AND KINGS** Biblical epic comes home this Easter **AND MORE**

## Going for gold

Monitor Audio Gold → [www.monitoraudio.co.uk](http://www.monitoraudio.co.uk)



Monitor Audio has taken its HCC award-winning Gold GX speaker range back to the drawing board and subjected it to 'significant design upgrades' for this new eight-strong line-up. The 2015 Gold family consists of floorstanders (Gold 200 and Gold 300), standmounts (Gold 50 and Gold 100), centres (Gold C150 and Gold C350), the Gold FX monopole/bipole surround and the Gold W15 sub. Prices start at £950 for a pair of Gold 50s with a standard gloss finish and climb to £3,600 for a pair of the Gold 300 floorstanders in piano ebony.

### HCC ONLINE...

Looking for breaking AV news, blogs, features, & reviews? For your daily fix visit us at [www.homecinemachoice.com](http://www.homecinemachoice.com) Follow us on Twitter @hccmag

# Sony gets Smarter

Sony YouView TVs → [www.sony.co.uk](http://www.sony.co.uk)

Sony has announced that its incoming range of Bravia TVs will come with integrated YouView functionality – in addition to Android TV talents – for a 'best-in-class' home entertainment experience. The Japanese giant's 2015 flatscreen line-up including the YouView TV portal consists of twelve new 4K/ Ultra HD models and eight Full HD models. 'Our new Bravia range now has an unparalleled combination of fantastic picture quality, fantastic design and the widest choice of content ever,' says Sony UK bigwig John Anderson. See p26 for more.





## Slim-line soundstage



Fresh from making its debut at January's CES tech expo in Las Vegas,

the Philips Fidelio XS1 will be available to buy from amazon.co.uk this month, priced £450. The first soundbase in the Fidelio range, the slinky XS1 utilises an array of front and side-firing drivers and a slender wireless sub to create a 3.1-channel soundfield. The elegant glass-topped soundbase is designed to hold screens up to 65in in size – and, as is increasingly commonplace, the XS1 also features aptX Bluetooth connectivity. [www.philips.co.uk](http://www.philips.co.uk)

## Ahead of the curve



Are you looking for a new telly and have a spare £60,000 burning a hole in your

wallet? If so, then you should make a beeline for Harrods, which is the exclusive UK retailer for LG's new 105UC9 Ultra HD TV. That £60,000 price-tag gets you a 105in 21:9 curved 5,120 x 2,160 '5K' screen and an integrated 7.2-channel 150W sound system. 'With a resolution of 11 million pixels, the 105in curved Ultra HD panel is proof of our continued leadership in the next-gen display department,' says LG UK bigwig Andrew Mackay. [www.lg.com/uk](http://www.lg.com/uk)

## Sonos sings the blues



Sonos has partnered with American jazz label Blue Note Records for its first ever limited edition speaker. Made to commemorate '75 years and counting' of Blue Note Records, the Sonos PLAY:1 Blue Note Limited Edition features a custom vertically-faded dark navy/blue finish developed in part through 'strategic use of robots' [cool! - Ed] and comes with the three specially-curated Blue Note on Sonos radio stations built into the menu. Only 4,100 of the speakers are available, priced £220 each.

[www.sonos.com/BlueNote](http://www.sonos.com/BlueNote)

# Toshiba turns off overseas TV

Fierce competition rocks Japanese telly makers, leads to global rethink

The once mighty Japanese TV industry continues to falter as fierce competition from South Korea and China impacts sales. Despite the boost created by the advent of 4K/Ultra HD and 'net connectivity, both Toshiba and Panasonic are re-evaluating their TV strategies.

Toshiba says it will exit the international TV business entirely and eventually only produce sets for its home market. The brand will quit North America first, handing a licence to use its brand to Taiwan's Compal Electronics on its way out. The new arrangement takes effect from March. It will then begin to withdraw from Europe and other territories.

The brand, which championed the adoption of Pro-Logic surround sound with a range of surround sound-enabled CRT TVs in the 1990s, says that it 'intends to transform its consumer TV business in regions other than Japan, replacing development and sales with a brand licensing structure. The target date for completing the new scheme and concluding negotiations with candidates is April this year.'

The move follows a similar exit from Europe by Sharp in 2014. The LCD panel pioneer sold its entire European AV division to Slovakian TV maker Universal Media Corporation (UMC). Under the agreement, UMC acquired 100 per cent shares in Sharp Manufacturing Poland, formerly Sharp's European TV production base, as well as rights to audio products manufactured by S&O Electronics in Malaysia, Sharp's production base for sonic gear.

**Japanese TV makers are struggling to compete**



**Craig Cunningham:** 'Panasonic actually sells more televisions in the UK than it does in North America'

In addition to now owning Sharp Aquos, UMC also produces sets with Blaupunkt, UMC, Eternity and E-motion labels.

## Panasonic wobbles

Meanwhile, Panasonic has stopped making TVs for the booming Chinese market. The company pulled the plug on its LCD TV factory in Shandong Province because it could no longer profitably operate in the region. It has yet to decide the fate of its LCD factory in Mexico, where 500,000 TV sets per year are produced for North America.

Reassuringly, the company is keen to stress that it's Japanese, Southeast Asia, European and UK TV operations are unaffected. 'We actually sell more TVs in the UK than we do in North America,' Craig Cunningham, TV marketing manager for Panasonic UK, told HCC.

Panasonic plans to introduce its first curved LED TVs in the UK this year, dip its toes into OLED, and move away from using IPS panels. While IPS screens offer a wide viewing angle and are intrinsically bright,

they don't deliver deep blacks. 'We've had some hits and some misses when it comes to our TV reviews,' admits Cunningham. 'It seems that the benefits of a VA panel are more appreciated in the UK, where black level performance is rated above viewing angle.'

## PLAYLIST...

Team HCC spins up its disc picks of the month

### Lucy (All-region BD)

Luc Besson's brain-busting sci-fi thriller is a real treat for the senses, delivering some of the most dazzling Full HD visuals money can buy alongside an exuberant DTS-HD 5.1 mix



### Silicon Valley: Season One (All-region BD)



Beavis and Butt-head creator Mike Judge has struck comedic gold yet again with this deft sitcom about a Silicon Valley startup company

### Drew: The Man Behind the Posters (R2 DVD)



Lucas and Spielberg are among the many famous faces celebrating the work of iconic movie poster artist Drew Struzan in this wonderful doc

### The Comedy of Terrors (Region B BD & R2 DVD)



An unscrupulous undertaker turns to murder to keep his business going in this 1963 horror-comedy

### The Legacy: Season One (Region B BD)



Four siblings fight for control of their recently deceased mother's estate in this gripping Danish TV drama. Worth a watch

## EXTRAS...

Small items that could make a big impression

### John Carpenter: Lost Themes



After decades of composing the music for his movies, the director of *Halloween* and *The Thing* has finally put together an album of original material. Relentlessly cinematic and utterly thrilling, the results play like the soundtrack to the best Carpenter film never made. Utterly unmissable for fans.

### Funko Predator: ReAction Figures



Following in the footsteps of Funko's 3.25in retro-styled *Alien* action figures comes this range of tiny Predators. There are four to collect, priced around £10 each – Team HCC's favourite is the translucent 'invisible' Predator.

### The Room: The Definitive Guide



Considered one of the worst films ever made, Tommy Wiseau's *The Room* has built up a fan following on a par with *The Rocky Horror Picture Show*. Find out what all the fuss is about with this invaluable guide to every aspect of the movie and its fans. All together now: 'Spoon!'

# 2014: A landmark year for CE

Increased consumer confidence pushes significant growth in AV sales

Even Inspector Clouseau couldn't fail to see that TV screen sizes have increased substantially in recent times, but he might not have ascertained that 2014 was a landmark year for consumer electronics, thanks in part to an increase in consumer confidence. According to industry analyst GfK, consumers are back to being as optimistic as they were in June 2007.

GfK's Nick Simon and Lucy Twist were speaking at a recent conference hosted by Clarity, an alliance of UK-based retailers, manufacturers, distributors, media and individuals from the home entertainment industry. Clarity aims to improve consumer understanding of hi-fi and home cinema by promoting the use of jargon-free advice by its members. And it was keen for them to hear the inside track on what consumers are eager to buy.

### Soundbar sales soar

As a whole, consumer electronics sales (including games consoles) went up by eight per cent during 2014, against a levelling off in sales of tablets. Fuelled by the vinyl revival, the biggest growth sector in home entertainment was turntables (nearly doubling compared with 2013) but not far behind were soundbars, with a huge rise to a whopping 896,000 units sold last year; the UK public spent £154m on these indispensable sonic solutions.

The public has also shown a growing lust for LFE as most soundbars sold now come with a subwoofer. More surprisingly, perhaps, is that audio streaming is seen as a must-have feature more often than not when buying a 'bar'.

'Across all categories we find that premium-priced products continue to sell well and have a large value share of the market,' said Simon, citing the example that 20 per cent of all AV receivers sold cost £1,000 or more.



**Nick Simon:** 'Last year was a particularly strong one for TV sales, with screens of 50in and above experiencing a huge rise'

Twist explained that until 2013 the average size of a TV screen sold had increased by just one inch every year since the 1990s, but in 2014 it suddenly jumped nearly three inches to 36in. In 1994 the average screen size sold was 18.9in and the average cost was £301. 'Back then a new TV cost about the same as some cars,' announced Twist. Today's TVs aren't just much bigger, they are also much cheaper in relation to cars. Twist cited that the average-sized flatscreen typically cost £375 last year.

So what can be taken away from these figures? While dedicated multichannel home cinema remains the realm of the enthusiast, there is clearly no shortage of people choosing to watch movies streamed from VOD services to bigscreen TVs sonically supplemented by a soundbar. The victim of this polarisation is the all-in-one home cinema system – sales declined to just over 100K last year, although at least Blu-ray had the lion's share of this sector.



Soundbars remain popular with TV buyers

## Swiss Model looks the part

Geneva brings its distinctive minimalist styling to the soundbase market

Following last year's Sound System Model XXL AV cabinet with integrated audio system, Swiss sound specialist Geneva Labs has developed a more economically-sized solution to poor TV sonics with its luxury Model Cinema soundbase.

Priced around £550, the Model Cinema promises a marriage of 'minimalist aesthetics, immaculate construction and accurate size-defying sound quality.' Its slender enclosure is split into three acoustic chambers housing five drivers; the four 2in tweeter/mids and single 5.25in woofer are each driven

individually by matching Class D amps with a total 120W peak output.

### Embrace the sound

The Model Cinema employs a TotalVolume algorithm to automatically adjust level when changing channels and during ad breaks, and makes use of Geneva's signature 'Embrace Sound HD' technology for a widely dispersed soundfield. Connections are Bluetooth 2.1 A2DP and a quartet of audio inputs (phono, optical, coaxial and 3.5mm). The soundbase is available in a either black or white finishes.







EXPERIENCE THE  
EXTRAORDINARY  
AT HOME.



PR-SC5530  
11.2-Channel Network A/V Controller



TX-NR3030  
11.2-Channel Network A/V Receiver



TX-NR1030  
9.2-Channel Network A/V Receiver



TX-NR838  
7.2-Channel Network A/V Receiver



TX-NR737  
7.2-Channel Network A/V Receiver



TX-NR636  
7.2-Channel Network A/V Receiver



HT-S9700THX  
7.1-Channel Network A/V Receiver/Speaker Package



HT-S7705  
5.1.2-Channel Network A/V Receiver/Speaker Package



"On the strength of the Onkyo TX-NR838, I predict the days of buying a non-Dolby Atmos-enabled AV receiver are drawing rapidly to a close. The future of home theatre begins here."  
Steve May, Home Cinema Choice, December 2014



SKH-410  
Dolby Atmos-Enabled Speaker System

**ONKYO**  
www.uk.onkyo.com



# The heart and soul of home cinema

Precision, a luxury and highly regarded loudspeaker range from Tannoy, engineered to deliver movies precisely as the director intended. High power double-magnet drivers, mass-load cabinets and extremely low-loss crossovers effortlessly deliver breath-taking detail and explosive movie dynamics. Built around a brand new 6 inch (150 mm) version of Tannoy's world renowned Dual Concentric™ driver, two stunning floorstanding models, a compact stand-mount and matching centre channel speaker ensure there is a Precision multichannel system for every size room. Powerful, passionate and incredibly precise, Precision gets to the heart and soul of home cinema like no other speaker in its class.



[tannoy.com](http://tannoy.com)



October 2013 - Precision 6.2



Precision 6.2



Precision 6.4



Precision 6.2 / 6.1 / 6C /  
TS2.12 system



Precision 6.2 / 6.1 / 6C /  
TS2.12 system



# Set lasers to stun!

Epson EH-LS10000 → [www.epson.co.uk](http://www.epson.co.uk)



Epson is aiming at high-end cinema rooms with its new Full HD EH-LS10000 projector, the first from the marque to incorporate laser technology and 4K 'enhancement' processing. The £6,000 LCD-based image-chucker will hit stores in April, claiming a lamp-life of 30,000 hours and rapid boot-up times of around 20 seconds courtesy of its dual laser array. Brightness output (both white and colour) is rated at 1,500 Lumens, and the projector packs a wider colour space than any previous Epson model, able to achieve DCI and Adobe RGB colour gamuts. Installation-friendly features include ISF calibration, a 2.1x zoom, motorised vertical and horizontal lens shift and a 10-preset lens position memory.



## DIARY

Our calendar ensures that you don't miss out...

### → MARCH



**16: Hollywood Chainsaw Hookers**  
In addition to the uncut version of Fred Olen Ray's cult splatter flick, 88 Films' jam-packed

Blu-ray also includes the legendary Linnea Quigley's *Horror Workout*.  
[www.88films.co.uk](http://www.88films.co.uk)

### 20: Insurgent

The stakes are raised and the mysteries deepen as the second book in Veronica Roth's 'Divergent Series' makes the leap to the bigscreen.  
[uk.eonefilms.com](http://uk.eonefilms.com)

### 26: The National Homebuilding & Renovation Show

Planning to build your own cinema room but lack a few necessary skills? Then pop along to the Birmingham NEC for this four-day dedicated self-build and renovation event to learn the latest tricks of the trade.  
[www.homebuildingshow.co.uk](http://www.homebuildingshow.co.uk)

### 27: The Long Good Friday

Ahead of its forthcoming Blu-ray release, catch the brand-new restoration of this British crime classic as it plays at selected cinemas around the UK.  
[www.arrowfilms.co.uk](http://www.arrowfilms.co.uk)

### 30: Interstellar

Christopher Nolan's sci-fi spectacular touches down on DVD, Blu-ray and Blu-ray digibook today – the latter limited to just 20,000 copies.  
[www.warnerbros.co.uk](http://www.warnerbros.co.uk)

### → APRIL

### 03: Furious 7



The blockbuster season is revving up even earlier than usual this year as the seventh instalment in the *Fast & Furious* franchise races into cinemas. If this manages to live up to the trailers, it's going to be insane.  
[www.universalpictures.co.uk](http://www.universalpictures.co.uk)

### 06: Black Sails: Season Two

Avast me hearties! Prepare for even more sun, slaughter and sea shanties as the second season of the Michael Bay-produced prequel to *Treasure Island* arrives on DVD and Blu-ray in the UK.  
[www.universalpictures.co.uk](http://www.universalpictures.co.uk)

### 09: HCC #246

The next issue of your favourite home cinema magazine hits the stands, packed with hardware tests, features, outspoken opinion and in-depth software reviews.  
[www.homecinemachoice.com](http://www.homecinemachoice.com)

# Sky says it's not rushing 4K

Industry Ultra HD confab reveals consternation about standards

Sky is in no hurry to launch a 4K channel. Speaking at an industry conference on Ultra HD organised by satellite operator SES, the satcaster's Chief Engineer Chris Johns suggested that there were still significant technical hurdles to be overcome. On speculation that the broadcaster was fast-tracking 4K to compete with BT, Johns would say only: 'Don't believe what you read in the papers.'

He cautioned: '4K is more how than wow at the moment. It's not quite there. While there was a lot of HD content available at the point of launch for high-definition services, it actually took 28 years to take off. We've got a little while yet before we actually launch UHD.' Johns did concede, though, that 'screens are here a lot more quickly than they were in the HD world.' He also said that UHD broadcast standards need to be created. 'Would I want to go with Ultra HD Lite? No thanks.'

Sky's technical guru was also dismissive of rival service Netflix 4K. 'I commend Netflix and Sony for producing content in 4K, but I've compared *House of Cards* 4K with the HD version and like-for-like I'd actually err on the side of the HD at the moment. There is something lacking about the 4K version. There is no wow, no differential.'

Richard Lynsay-Davies, CEO of the DTG (the Digital Television Group), agreed. 'If you compared *House of Cards* in 4K to the World Cup Final in high-frame rate 4K, they are not even apples and pears... I don't think *House of Cards* is even fruit. It is dreadful 4K.'

### What's the hurry?

Sky's reticence to reveal a UHD roadmap came as satellite operator SES used the conference to reveal that it has begun broadcasting a 4K UHD test channel positioned at 28.2 East, specifically to serve the British Isles. The channel joins two others that SES has been transmitting from 19.2.



**Craig Johns:** '4K is more wow than how at the moment. We've got a little while before we actually launch a UHD service'

'We've come a long way in the last 90 years,' declared SES managing director Mike Chandler. 'Satellite is the ideal way to distribute 4K. It allows it to be easily distributed to million of homes worldwide. We will drive it just as we did with HD.'

At the event, Thomas Wrede, VP of reception systems at SES, expressed doubts that the proposed three phases of Ultra HD (Phase 2 involves the adoption of high-frame rates, HDR and better colour, while Phase 3 opens the door to 8K) could be introduced within a five-year time span, given that the history of TV typically shows decades between fundamental broadcast shifts.

Wrede also noted such rapid evolution may not be necessary. 'I don't mind the phases, I think standardisation is great. But do we need to hurry? Will broadcasters really implement three UHD standards within five years? I have my doubts.'

He also suggested that UHD Phase 1 already offers viewers major benefits. 'We have more resolution, we have 50/60p with less motion blur, we have 10-bit colour encoding. I think consumers will appreciate this. There are companies out there, mainly OTT (Over-The-Top) companies like Netflix, who are able to market this.'

Regardless of a lack of content and fluctuating standards, sales of 4K flatscreens will top one million sets in the UK this year for the first time, according to market analyst GfK. Spokesman Nigel Catlow told HCC that around 200,000 4K TVs were sold on these shores during 2014. 'The acceleration we've seen here is happening everywhere, with Germany and France chasing the UK in terms of penetration.'





This month's top 10 news stories in handy, bite-sized chunks...



## 1 Samsung's Smart woes

Samsung has sparked privacy concerns after it was revealed that some of its Smart TVs record everything you say when voice-command tech is active – including potentially sensitive and personal information. As well as being stored by Samsung for a while, this voice data and audio recording is also passed on to a third party firm (voice recognition specialist Nuance). The South Korean brand's Smart TVs have also come under fire for a glitch that forced pop-up adverts into movies streamed via the Plex and FoxTel apps.

## 2 Rebranded!

Freeview has revealed a new logo as it gets ready for the launch of Freeview Play later this year. Set to go head-to-head with YouView, Freeview Play will combine the usual free-to-air digital channels with catchup services such as BBC iPlayer and 4OD.

## 3 Ultrafast expansion

Virgin Media is investing £3bn in expanding its ultrafast broadband network to 4m more homes and business over the next five years. The company plans to focus the expansion on areas closest to its existing network. Communities are being asked to register their interest at [www.virginmedia.com/cablemystreet](http://www.virginmedia.com/cablemystreet)

## 4 High demand for on-demand

It would appear that Sky customers just can't get enough of its on-demand TV service. The latest figures reveal that Sky's connected TV platform broke its previous record in the UK and Ireland, with almost 2bn download and streaming requests made during 2014 (which works out at around 60 requests per second) – an increase of almost 50 per cent on 2013's figures.

## 5 Go goes red and blue

Cambridge Audio has added a splash of colour to its award-winning GoV2 Bluetooth speaker. Previously only available in a choice of black or white, the Go can now be picked up from John Lewis and Richer Sounds stores nationwide in snazzy red and blue finishes for £120.

## 6 Hi-res music store hits UK

A decade after it launched in its native Japan, Onkyo's hi-res music store is finally available in the UK. Formerly known as e-Onkyo, the service (currently in 'beta') has been renamed Onkyomusic and offers users access to hundreds of thousands of 24-bit/44.1kHz up to 192kHz hi-res tracks, plus millions of CD-quality 16-bit FLAC downloads. Onkyo has also expanded the service to the US and Germany, and is targeting more countries in the future.

## 7 Paramount pulls out

Paramount Home Entertainment has agreed a five-year deal that will see Universal Pictures take over the distribution of the studio's DVD and Blu-ray releases in overseas markets. The deal begins in the UK on July 1 and should see Universal handle the DVD/BD release of such upcoming blockbusters as *Terminator: Genisys* and *Mission: Impossible 5*.

## 8 Art of noise

A new art project is aiming to help AV fans decorate their homes with pictures of classic British hi-fi kit. Audio Icons is the brainchild of speaker designer/musician Phil Ward and has launched with two limited edition

prints showcasing six iconic amps and nine speakers. Head over to [www.audio-icons.com](http://www.audio-icons.com) for more info.

## 9 Football TV rights record

Sky and BT Sport have paid a mammoth £5.136bn for the live Premier League TV rights for three years, starting with the 2016/2017 season. The record price represents a 70 per cent increase on the £3bn the two companies paid for the current three-year period. Game on!

## 10 Enhance your image

Bedfordshire-based AV accessories specialist Thor has launched a new HDMI cable with a twist. The £70 Thor 4K Image Enhancing HDMI sports a silver box part-way down the cable that houses a processing chip certified by Technicolor and a 10-bit video upscaler to convert 720p content to Full HD and 1080p content to 4K. We suspect it's aimed at those purchasing entry-level UHD displays.



## PREMIERE

What's happening in the world of TV and films...

### Guardian eyed for Indy

Could Chris Pratt be about to land yet another blockbuster franchise? The *Guardians of the Galaxy* and *Jurassic World* star is reportedly Disney's first pick to head up its planned Indiana Jones reboot.

### Spidey joins Avengers



Marvel Studios and Sony Pictures has announced a deal that will see a new Spider-Man debut in an as-yet-unnamed Marvel movie (expected to be next year's *Captain America: Civil War*). The two studios will then collaborate on a new *Spider-Man* solo film in 2017.

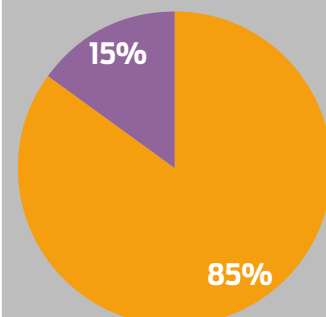
### More Martin coming

Given the popularity of *Game of Thrones*, it's hardly surprising that Hollywood is digging through author George R.R. Martin's back catalogue to find other stories to adapt for the screen. First up looks set to be an adaptation of his fantasy triptych *Into the Lost Lands*, with Milla Jovovich currently in 'advanced negotiations' to star.

## WE ASKED...

### Will the 4K Blu-ray format succeed?

- Yes – 4K Blu-ray will be a must for all home cinema setups
- No – streaming services like Netflix have beaten it to the punch!



Results from [www.homecinemachoice.com](http://www.homecinemachoice.com)  
Go online for more polling action

# Great Scott!

Exodus: Gods and Kings → 20th Century Fox → All-region BD & R2 DVD

Ridley Scott's latest historical swordfest *Exodus: Gods and Kings* should deliver a divine home cinema experience when it hits the UK this Easter. Scheduled for release on April 27, *Exodus...* follows the pattern set by the director's earlier hit *Prometheus*, arriving in three versions – single-disc DVD and Blu-ray releases, plus a triple-disc Collector's Edition Blu-ray. The latter will include both 2D and 3D presentations (with DTS-HD Master Audio 7.1 audio), plus an exclusive bonus platter offering an array of behind-the-scenes goodies.





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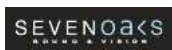
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# WIN

# AN OPTOMA FULL HD PROJECTOR & 92in SCREEN

**THE DREAM OF** any home cinema fan is to have a projector and screen to enjoy bigscreen movies, games, TV and sports – and this issue, thanks to the kind people at Optoma UK and retailer Richer Sounds, we're making that dream come true for one lucky *HCC* reader.

Up for grabs in our competition is an Optoma GT1080 projector worth £600, and a DS-9092PWC 92in pull-down screen worth £80.

## Super-size from a small distance

The Optoma GT1080 is a single-chip DLP projector with a native Full HD (1,920 x 1,080) resolution perfectly suited to Blu-ray movies, HD TV and next-gen console games. Offering a short-throw lens configuration, it can craft bigscreen images from distances as little as 1m, so it's ideal for a living room setup where space may be at a premium. It also features an integrated 10W speaker system, meaning external speakers aren't required to enjoy content.

Connectivity includes two HDMI inputs, allowing you to hook up both a BD deck and games console, for example, and the MHL standard is supported, meaning

media from smartphones and tablets can be fed through the PJ. There's also a 12V trigger output should you wish to partner the GT1080 with a motorized screen, a 3.5mm audio output, and 3D-Sync for use with Optoma's optional 3D glasses/transmitter bundle (the projector offers a 144Hz refresh rate for smooth flicker-free 3D images).

Picture performance is aided by a raft of features and processing options. The GT1080 combines a bright 2,800 Lumens output with a claimed contrast ratio of 25,000:1 for dynamic, vibrant HD visuals, with Dynamic Black processing on hand to automatically adjust brightness depending on image content. Texas Instruments' BrilliantColor wizardry, meanwhile, improves colour saturation, and user adjustments can be made to gamma and colour management. And gamers are well-catered for by the GT1080 – the model includes a dedicated Game mode that optimises contrast and colour performance, while speeding up response times, for an edge-of-your-seat joypad experience.

## Pull-down and play!

Also in our prize giveaway is Optoma's DS-9092PWC projector screen – at over 2m wide, the perfect partner for the GT1080. This 16:9 aspect ratio manual pull-down model can be mounted either to a ceiling or wall and offers a self-locking mechanism to keep it firmly in place. It uses a matte white four-layer screen material that is wrinkle/wave resistant and rated at 1.0 gain.

So, fancy winning both these great prizes? All you need to do to enter is answer the question opposite. Good luck!



Enter our comp to grab a bigscreen setup



**For more information on Optoma's projectors and screens visit**  
[www.optoma.co.uk](http://www.optoma.co.uk)



To be in with a chance of winning the Optoma GT1080 and DS-9092PWC screen answer the following film-related question:

**Q:** Name the film starring Matthew Broderick as a computer gamer who almost starts World War III...

- A)** Tron
- B)** WarGames
- C)** Joysticks

### HOW TO ENTER:

Simply email your answer (either A, B or C) to [competitions@homecinemachoice.com](mailto:competitions@homecinemachoice.com) with the subject line 'Optoma Projector'. You must include your name, address and contact telephone number.

The closing date for this competition is April 16, 2015. Please read the terms and conditions (below) before sending in your entry.

'The GT1080 combines a bright 2,800 Lumens output with a high contrast ratio for dynamic, vibrant visuals'



#### Competition rules

- 1.** The first entry drawn at random will win the prize. **2.** Only one entry per person/household; multiple entries will be discarded. **3.** Employees of MyTimeMedia Ltd and companies supplying competition prizes are not eligible to enter this competition. **4.** Please ensure your personal details are correct, as they will be used to contact you if you win. **5.** No alternatives, cash or otherwise, will be offered to the winner as prizes. **6.** The editor's decision is final. **7.** The closing date for entries is April 16, 2015.



**Team HCC** joined the AV enthusiasts making their annual pilgrimage to Bristol to check out the demos, product launches and gossip at the UK home audio show

# Sound & Vision: Bristol Show 2015

**BY COMPARISON TO** CES or IFA, the annual Sound & Vision: The Bristol Show can feel like a village fete up against the Chelsea Flower Show, but it remains a vital fixture on the UK consumer electronics calendar. This year – its 28th – it once again took over the Marriott hotel in Bristol's city centre, and saw punters queuing out of the door to get in. With numerous manufacturers unveiling exciting gear, we took the chance to get hands-on with brand-new kit and pick the brains of the people

Acoustic Research's M2 hi-res audio player – Sony Walkman rival?



charged with bringing these products to the AV-hungry masses.

## ACOUSTIC RESEARCH

Proving that hi-fi and home cinema brands never die, Acoustic Research reemerged at Bristol after a period of hibernation. Owned by the Vox corp in the US, AR has been rebooted with a whole raft of products slated for release. Hong Kong-based design engineer Alex Li proudly showed us the ARUA1, a £400 'audiophile' portable DAC and £900 M2 hi-res audio player, the latter of which looks like a direct rival to Sony's NW-ZX2 hi-res Walkman, with its impressive Android-based UI and playback of all common hi-res files including native DSD and DXD.

## ASTELL & KERN

Astell & Kern has been exciting its hi-res audio fans at Bristol for a few years and made waves again this time with its first desktop product, the £9,000 AK500N networked music system. From its distinctive form (inspired by the Matterhorn, apparently) to its battery operation (in order to eliminate mains noise) and PCM-to-DSD conversion, the unit pledges to offer state-of-the-art audiophile entertainment in an arresting manner. A bit like the crown jewels in the Tower of London, we were allowed to gaze but not to play. Spoilsports.

## CANTON

The German brand decamped to the Marriott with a highly impressive room display – huge pictures of





Berlin were used as a backdrop to the slew of DM50 soundbases featuring new glass tops. Company spokesman Freddy Allen confirmed that demand for soundbases is 'very strong' and the brand will have more, wider models coming to meet the growth in sales of larger TVs. The glass-topped DM50 is available in white, silver and black.

## ELAC

Another German firm putting an effort in to its display was ELAC, which showed off its WS range of on-wall speakers. These shallow down-ported models come with either single or dual midbass drivers, and are aimed at hi-fi and home cinema systems where style is a consideration. The accompanying SUB 2040 ESP subwoofer has a push-push/pull-pull configuration for its twin drivers and delivers 300W of LFE excitement, although we're not convinced by the exposed screws on its top, known in some quarters as an industrial look. Control via an iPad/iPhone or Android device certainly piques our interest, though.

## ENTOTEM

Making its Bristol debut was new UK-based outfit Entotem, bringing with it Plato, an all-in-one streaming system with a built-in pre-amp, power amp and 2TB hard drive. The company showed us how it can record audio and (non-DRM protected) video from numerous sources and be used to stream different sources to different DLNA playback devices, including TV screens. The unit is controlled by an app or using the Android touchscreen, while Gracenote fills in the metadata blanks. Due in May, the special show price was £2,500 approx but a final UK ticket is undecided.

## KEF

The two biggest buzzwords of this year's show were arguably Dolby and Atmos, with no shortage of visitors eager to hear for themselves what the fuss is all about (no doubt due to the small number of commercial Atmos cinemas in the UK...). Jonathan Johnson, KEF's business relationship manager, told his audience that Atmos was a game-changer, before running through Dolby demo material (including the *Amaze* trailer) to prove his point,

and switching between 5.1 TrueHD and Atmos. Proving the benefits of going aurally upwards with KEF were its £600-a-pair R50 upfiring speakers. As for its sonically stupendous £15,000 Blade Two floorstanders, here KEF was able to simply let the music do the talking.

## KUDOS

Kudos to hi-fi speaker marque Kudos, which chose the Bristol Show as the venue to unveil its forthcoming Titan 808 loudspeaker. With a newly-designed midbass driver, tweeter and crossover, plus retrofitted cabinet, only the two isobaric bass drivers remain the same as those used in the original T88. We heard a CD rip of Yello's *Soul on Ice* effortlessly belted out by this behemoth with incredible gusto and clarity. Pricing is yet to be confirmed, but don't expect it to be pocket-change.

## MONITOR AUDIO

Monitor Audio had gone to great lengths to set up its CPCT260 in-ceiling speakers for a non-reflective Dolby Atmos experience. Unable obviously to hack chunks out of the Marriott's ceilings it had hauled giant podiums up four flights of stairs. 'We wanted

**'The two biggest buzzwords of this year's show, thanks to multiple demos, were arguably Dolby and Atmos'**

to have four speakers but they were so heavy we settled for two,' Daniel Kersey, MA sales rep, confided. Paired with a Radius system, Dolby's rainforest sequence once again had us reaching for our brollies, even with this 5.1.2 configuration.

## OPTOMA NuFORCE

Optoma has raised a few eyebrows among home cinema fans with its acquisition of audio brand NuForce, but product manager Reuben Klein was on hand to explain the venture. He told *HCC* that he sees NuForce as an opportunity for projector



Left: Canton's suite gave listeners a taste of its award-winning DM50 soundbase; KEF's Jonathan Johnson discusses the brand's Blade speaker



Top to bottom: Astell & Kern's high-end AK500N network music player; ELAC's WS on-wall speakers; Entotem's Plato streaming system

retailers to take advantage of portable audio's surge in popularity. He also boasted that the NuForce name is well established in Asia and the Middle East and its portfolio is perfect for Europe.

Paul Simon's *Graceland*, via the Optoma NuForce UDAC3 headphone amp (£99), was reassuringly upbeat, but we're still more interested in the company's AV pre-amp and power amp line, which we hope to get our mitts on soon.

## PIONEER

Another company opting to show hi-fi enthusiasts the aural talents of a Dolby Atmos array, Pioneer grabbed attention with its Atmos-enabled speakers that build the upfiring driver into the enclosure for an elegant solution. Its system used the S-BS73A-LR bookshelves, S-C73A centre channel and S-FS73A floorstanders, driven (naturally) by the brand's LX amplification and with bigscreen visuals coming via a JVC PJ and screen. Again, demo material was provided by the Dolby clip disc – but Pioneer also gave a runout to some of the choice audio moments from *The Expendables 3*. Good call.

## PMC

Speaker stalwart PMC's Twenty series has a new addition in the shape of the Twenty Sub, a £3,000 subwoofer with an unusual form factor and big ambitions. Wooing buyers for the first time at the Bristol Show, its tall slender cabinet houses two 7in custom-made bass drivers, egged on by a 400W Class D amplifier, and tuned down to a claimed 22Hz via an Advanced Transmission Line (ATL) porting system. Its audiophile bent is apparent from its connections – balanced stereo analogue (unbalanced convertors are included) and AES/EBU digital inputs – but the brand is keen to stress it's been designed to 'shake the rafters for movie fans', too. The Twenty Sub will be available in the same Walnut, Amarone, Oak or Diamond Black flavours as the rest of PMC's Twenty lineup.



Top to bottom: REL's 212SE subwoofers get a work-out; Ruark's R2 multiroom radio; Q Acoustics' new 3000 series 5.1 array

Pioneer's Dolby demonstration used its new S series Atmos-integrated floorstanding speakers



## REL

We muscled our way in to REL's well-attended room to hear the £2,750 212SE subwoofer, after only getting the briefest of tastes at CES in January. REL was demonstrating the benefits of having a dedicated bass-maker even for a two-channel setup, and sometimes subtly seemed to be the name of the game in terms of material – Dire Straits' *Romeo and Juliet* wouldn't necessarily be the most obvious track to illustrate the performance chops of its 1,000W, quad-driver beast. However, a later demo of AC/DC's *Thunderstruck* at Wembley Stadium-style volume levels at least gave the sub the opportunity to cut loose – and had people leaving the room with ear-to-ear grins.

## RUARK

Ruark announced its first ever multiroom audio product, the R2 radio. Unusually, setup and control of track playback can be performed directly on the R2 itself rather than relying on a smartphone app. One radio can act as a hub for four others, streaming different sources to different rooms, and Spotify Connect is built in to the unit, which automatically takes over from a smartphone (saving phone battery and letting it be used for other functions). Existing R2s will be firmware-upgraded online from April.

## TANNOY

You can't move for stereo speakers at Sound & Vision: The Bristol Show, but not every company remembers to make a centre channel model, too. So we were pleasantly surprised to be told that Tannoy's new mid-range Revolution XT series will be bolstered by a dedicated centre in May. The speakers sport the company's new Omnimagnet tech, where the Tannoy-traditional dual concentric drivers use a single shared magnet, enabling shallower drivers with better dispersion. Pricing starts at £400 for a pair of the XT Mini standmounts, and tops out at £1,300 (pair) for the XT 8F floorstander.

## QACOUSTICS

Q Acoustics' ebullient rep Steve Reichert took visitors to the brand's ground-floor room through the speakers in its freshly-minted 3000 range, happily proclaiming the 3020 standmount as 'the world's greatest speaker... under £200.' It certainly sounded impressive during our taster session. The 3020 is at retailers now along with the compact 3010 bookshelf model, 3050 floorstander, 3090C centre channel and 3070S woofer. Movie fans are treated to 5.1 packages costing £700 in graphite/walnut or £900 for the leather/lacquer finishes.

## YAMAHA

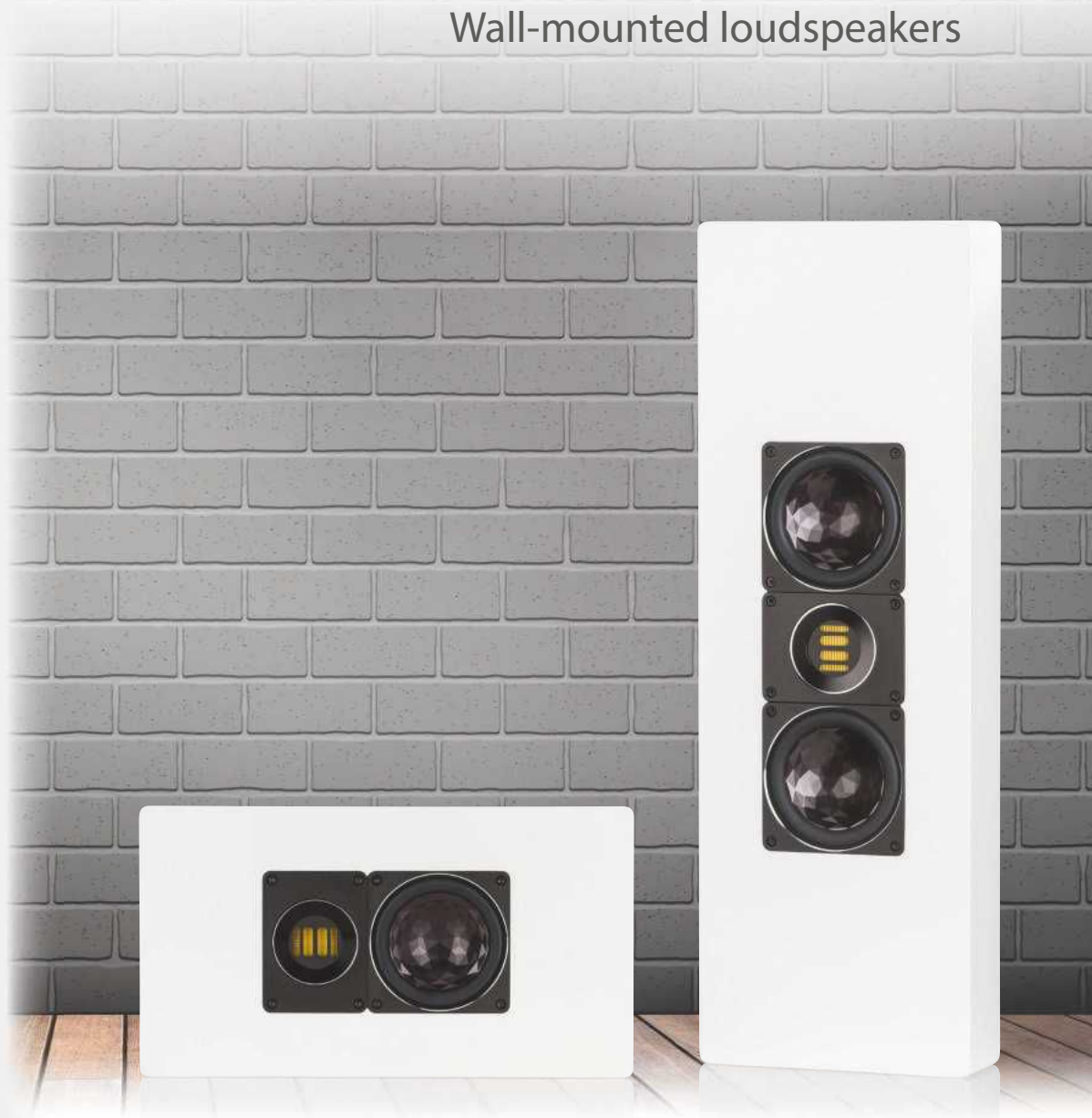
A final Dolby Atmos demo? Oh, go on then. Yamaha was using its RX-A3040 AV receiver and 11-channel MX-A5000 power amp to drive a fulsome 7.2.4 system, using KEF and Yamaha enclosures. We're not sure Dolby would have approved of the use of upfiring speakers considering the ceiling height, but in truth the array sounded very tasty – and Yamaha's drop-in ethos encouraged plenty of attendance ■



# On-wall

## Turn the music on-wall

Wall-mounted loudspeakers



# MARKS THE 4K SPOT FOR SONY

The iconic Japanese TV company hopes to keep its AV renaissance on track with a new range of screens which combine X-rated picture processing and High-Res Audio. **Steve May** gets an early eyeful

**SONY INTENDS TO** push the boundaries of TV performance further than ever this year, with a range of screens that set new benchmarks for sound and vision. That's the ambition, anyway, and to prove it's no idle boast, the company threw open the doors of its UK HQ and gave *HCC* an early preview of what's rolling off the production lines. Given that Sony has long been at the forefront of domestic 4K, and has single-handedly put quality audio back on the flatscreen agenda, we couldn't get there quick enough.

## Catching up with catchup

Yet before we could be taken through the new screens, Sony had an announcement to make – the integration of YouView functionality. This could be significant news for any wannabe Sony TV buyer, as it will introduce much of the on-demand functionality seen on lauded YouView PVRs, bringing a seven day roll-back EPG, curated content and full main-channel catchup to Sony screens for the first time.

In fact, YouView is just one of a number of wide-ranging changes to Sony's Smart TV

proposition. The brand has binned its own Smart UI and opted for the Google TV Android platform instead. One of a number of TV makers to pledge allegiance to Google's flag, Sony will at least bolt a custom content thumbnail bar (referred to as the Sony Shelf) on to the standard Android TV interface, which in turn offers voice search and Google Casting from compatible mobile devices.

'The X1 processor is designed to enhance different flavours of 4K – be it 'net content, satellite or UHD Blu-ray'

Note that the Android UI employs a native Full HD resolution, both for Full HD and 4K models.

An early hands-on with the service is impressive. As a network-enabled interface, it's intuitive and fun to use. YouView behaves much as you'd expect it to, although here doesn't offer access to any of YouView's IP-delivered channels.

Sony's lack of a complete catchup bouquet (BBC iPlayer, ITV Player, 4OD and Demand 5) has been a thorn in its side for years. This new partnership elegantly solves that. YouView will appear on most, but not all, of Sony's 2015 screens, including the brand's W85C, W80C, and W75C Full HD models, plus all incoming 4K panels – the X94C, X93C, X90C, S85C, X85C and X83C screens.

## Pushing processing further

Most exciting for tech hedz, Sony in 2015 is implementing the biggest shake-up to its 4K processing tech yet, with the advent of the X1, the first image processor designed specifically to enhance different flavours of Ultra HD, be it internet-delivered, 30Mbps satellite or full-fat 100Mbps from Ultra HD Blu-ray.

Sony offered a head-to-head demo of its 2014 and 2015 4K TVs to illustrate the processing of its new X1 processor







'Our image processor needs to do more now,' explains Mark Whiteman, Sony UK's technical marketing and product planning manager. 'It will try and work out the original data rate of the source coming in, and once analysed, in real time delivers it to our X-reality Pro, X-tended Dynamic range and Triluminos colour processors.'

The entire 2015 Sony 4K range boasts this X1 wonder chip. Unlike some rivals brands, there are not various tiers of processing finesse for consumers to navigate. Even the cheapest Sony 4K flatpanels should benefit.

'Traditional video processing treats all sources the same,' says Whiteman. 'The X1 sets out to optimise the image depending on content source. That's going to become more and more important as content becomes available.'

The X1 is tailored specifically for AVC, HEVC and V9 4K codecs. 'Analysis happens on a number of different levels,' reveals the Sony man. 'It's not just content in the frame – skin, clothing, etc – it's also foreground and background. Focus and defocus. It's that which emphasises good depth perception when you're viewing. Great 4K can give an almost 3D illusion of depth.'

One particularly cool trick is Flat Area noise detection, which is able to distinguish between fine detail and flat swathes of colour, frame by frame. The aim, I'm told, is to negate accidentally softening areas of texture and detail. The snappily named Self Similarity Super Resolution algorithm, within X-Reality Pro, also promises to cure fine line break-up during the upscaling process.

Ultimately, there's a lot of X-this and X-that going on in upcoming Sony screens – but just how effective is all this new silicon? *HCC* was granted an early preview of the X1 chip in action, running comparatively alongside a 2014 model. I can confirm that the new screen did indeed appear to extract even more detail from the same demo material – but did it look unnaturally crisp, even unnatural? At times a demo travelogue video appeared so sharp it

**The imminent X90C sees the brand adopting an ultra-slim design. Much of the screen is a mere 4.9mm wide**

could draw blood. We'll just have to wait for the first production samples to be delivered from factory floors to be sure Sony's boffins haven't gone a smidge too far.

### Tackling TV audio

One area where Sony is consistently advancing the AV art is audio. This year will see the launch of the first Hi-Res Audio compliant screens from the brand. In the UK, these will be the X93C and X94C in 75in, 65in and 55in flavours. High-resolution audio has become a mantra for Sony over the past few years, and now covers everything from streaming sound systems to Xperia smartphones and an ever-growing headphone range.

Sony's sonic TV enhancements have traditionally come on the back of inventive design, with cabinets that offer the requisite volume to house decent drivers. This year sees a tweak to its controversial Wedge design – imaginatively entitled the half-wedge. As you might guess, this means the triangular base terminates half-way, leaving a conventionally thin upper body. To counter the resulting lack of cubic volume, Sony has extended its magnetic speaker technology to the set's subwoofer and mid-range woofers, along with Mica-reinforced material.

'The litre capacity for Wedge screens in 2014 was 7.8 litres, this year it's 7.4 litres, so there's been a slight reduction,' says Whiteman, although the drivers remain the same size. 'The move to magnetic fluid actually means there's a +3dB boost for the slimmer models.' So all things being equal, the new sets should sound much the same as last year. 'The fact that the woofer and subwoofer are using the same material means they are also a little more in-sync,' I was told. There's even a different digital amplifier driving the tweeter separately from the sub, for an improved performance.

We like the sound of that ■

## ULTRA HD GOES SMALL

X1000V action cam takes aim at Go Pro generation



Sony's 4K plans encompass more than just flatscreens – the company is expanding its line of Ultra HD capture gear (cameras and camcorders) in 2015, and one of the most enticing prospects seems to be its new FDR-X1000V action cam.

A dinky, splashproof model that shoots 4K footage using the XAVC S codec, it's part of a growing market of action cams first made famous by rival brand Go Pro.

Imaging is delivered via a 1/2.3in Exmor R CMOS sensor and Zeiss Tessar lens, with an effective video resolution of 8.8MP. High frame-rate modes (up to 240p) are supported for HD shooting; 4K maxes out at 30p.

The X1000V hooks up to your TV via HDMI, and includes Wi-Fi and NFC connective tricks. Pricing is a reasonable £360.

# 'The **style** of a **soundmix** today is very different to **10** years ago'

**Ioan Allen** – Senior Vice President of Dolby Laboratories – has worked in the world of movie audio for decades. Martin Dew spoke to him about Atmos, AC-3 and comic book movies

**IT MAY COME** as no surprise that the late Ray Dolby's name adorns more movie credit scrolls than that of any other tech industry veteran or, for that matter, any actor or director. But behind this man's vision of a world of ubiquitous cinema surround sound lies the applied genius of long-time staff member and senior vice president of Dolby Laboratories, Ioan Allen. Having spearheaded and developed Dolby Stereo, Dolby SR and Dolby Digital technologies, there is perhaps no one we can thank more for the thrills of immersive audio, in the cinema or at home.

Allen is rightly revered in Hollywood, and was awarded The Society of Motion Picture and Television Engineers' [SMPTE] Progress Medal, the most esteemed single honour accorded to any individual by the organisation, late last year. Accepting his gong at the ceremony, Allen acknowledged and thanked both his former colleague, Ray Dolby, and, in what seemed like a tidy conclusion of a full circle of events, George Lucas, himself seated at the front

table to receive honorary membership of the society. Nearly 40 years earlier, as Allen explained on the rostrum, he had been invited to lunch by Lucas at Elstree Studios in Borehamwood to consult on sound for *Star Wars* during pre-production, rather than post-production. Allen's suggestion that Lucas should use old-style boom microphones, instead of lavalier microphones, resulted in the actors sounding like they were in the 'same room' as the audience during theatrical presentation of the finished film. And the rest is blockbuster movie history.

We met up with Allen just prior to the annual SMPTE Awards ceremony, at the Loews Hotel in Hollywood, for a chinwag.

## **Congratulations on receiving the award. What is the SMPTE Progress Medal?**

I think it's the highest SMPTE medal. It's kind of a long-service medal, I think. Or that's the way I look at it. And after 40-odd years, they're going to give you something! It's supposed to be for contributions to >





PHOTOGRAPHY BY RYAN MILLER/CAPTURE IMAGING



technology in the cinema and television business, obviously, which are the criteria for the SMPTE. They're responsible for all the standards in television and cinema, pretty much throughout the world. They are the originators of the technology and the people who standardise it. So, everything from the TV you watch to the cinema you watch, will have standards created by the SMPTE.

**You hail from the UK originally. How did you get involved with Dolby?**

I joined Dolby in 1969 when it was a British company. It was based in England and we moved over here in 1976 to San Francisco. Prior to that, I was in the music business doing rock 'n' roll and folk music, in management, engineering and record production. It seemed like a sensible jump at the time, and I've been here ever since. I took on a temporary job for six months and it's lasted 45 years now.

**So what was the first project you worked on when you joined Dolby?**

Noise reduction for professional music studios.

We weren't in the film business at all then. I joined at the time that the music business was going over towards 8- and 16-track tape recorders. And 16-track tape recorders are hissy, so there was an obvious

**'TrueHD is superior because it's lossless compression, whether the consumer is aware of it or not'**

market for Dolby noise reduction. So, I was the person who traipsed from recording studio to recording studio, persuading them to do Dolby noise reduction. Then, after two or three years, I thought that the market was going to get saturated pretty quickly. Not everyone is going to have a 16-track tape recorder in their bedroom and I thought, 'Where else is there a market for noise reduction?'. And film seemed to be the obvious answer. So, that's what got us into the film programme.

## SURROUND SOUND HISTORY – FROM FANTASIA TO BRAVE

Looking back over 70 years of cinema history at a sonic revolution kickstarted by Mickey Mouse

Many of the audio and video technologies we use today in our homes – and on portable devices – are indebted to professional cinema. Two-channel stereo, all iterations of surround sound, and even the aspect ratios of televisions and computer screens derive their origins from the local flea-pit. The genesis of surround sound, however, goes back further than most think, but there is no question that Dolby is the company that honed and perfected later generations of these technologies for the enjoyment of the masses.

### Adventurous animation

Only three theatres were equipped with Disney's revolutionary 'Fantasound' for the release of *Fantasia* in 1941. Costing a staggering \$85,000 for a 54-speaker fit out in each location, it's not surprising that New York, Los Angeles and San Francisco were the three cities to get a taste of the first documented presentations of surround sound. So Walt Disney, with the aid of Bell Labs, can be credited with the invention of multichannel (in this case, three front channels and two rear channels of discrete audio).

To compete with the black-and-white talking tubes that started to permeate homes in the 1950s, major film studios began to rummage around for technologies-of-spectacle to woo audiences back to the cinema. In came large-format projection systems, such as Cinerama, Vistavision and Todd-AO 70mm and, along with those, commensurate multichannel surround technologies. Three or five separate screen channels plus one rear mono surround channel of magnetic 'striping' would capitalise on the added real estate available either side of the picture on these larger film format prints.

A version of surround audio arrived in the home in the early 1970s. Both matrixed and discrete versions of quadraphonic audio availed thousands of four-channel recordings to music fans, but the unreliability of the decoders and equipment saw the technologies consigned to early graves.

Declining US theatrical audiences in the 60s and 70s, combined with the advance of the grim, 'shoebox'-style, one-speaker-wonder, multiplex cinema, meant that a technology revolution was

surely not only required, but inevitable. Dolby Laboratories, with its legacy of tape noise reduction tech, introduced Dolby Stereo for the release of *A Star is Born* in 1976. Here, four channels (three front and one rear) of matrix surround sound were encoded onto the analogue, non-deteriorating optical track of 35mm theatrical release prints.

How did they get four channels of audio from two analogue tracks? If you added all the information that was common to the left and right channels (L+R), you could squeeze out an independent centre channel (typically used for locking dialogue to the middle of the screen). Then, if you took all the information in the left channel and subtracted the information in the right channel (L-R), and combined it with phase shift, you ended up with an additional rear channel. Simple, right? Not so. It was the added magical ingredient of a proprietary 'logic circuit' that defined all four channels as separate and discrete.

**Left-to-right: *Fantasia* debuted surround sound in 1941; *Apocalypse Now* introduced an LFE channel on its Dolby Stereo mix; *Batman Returns* – the birth of Dolby Digital**





### How did that morph into Dolby Stereo?

It was a natural progression. We discovered that film soundtracks were technically really bad. Noise reduction by itself wasn't going to kick it, so that's why we developed Dolby Stereo with four channels of sound: left, centre, right and surround, and so on – right through to Dolby Digital and through to Dolby Atmos today.

If you like, we got into the format business, rather than just the noise reduction business.

### But there's a logical progression through that transition, because Dolby is adept at putting a lot of information into a small pipe, and then opening it up at the other end...

That's a good way of putting it. For both analogue and digital, it's how much stuff you can squeeze through the pipe, as you put it. That's good, I like that.

### Jumping forward from Dolby Stereo, how did you foresee that Dolby Digital 5.1 sound could be incorporated onto 35mm film, and then as AC-3 on Laserdisc in the home?

You should realise that AC-3 is not quite the same

thing on film as it is in the home. It's got the same name because the function is the same, if you like. But the difference with film is that it is a frame-related system, so each frame stands up in its own right – in case the projectionist cuts a few frames out – whereas the consumer AC-3 systems are merged from frame to frame to frame. So, they're not exactly technically compatible.

### And the Dolby Digital information was stored in between the sprocket holes on 35mm film?

Yes, that's right.

### So was it a challenge to move Dolby Digital 5.1 from commercial cinemas to home setups?

No, it was the other way round, if anything.

The consumer companies are frantic to sell more hi-fi: 'Hey, I can sell these people another receiver,' or 'Hey, I can sell more loudspeakers.' So, if anything, there's pressure the other way round. They want us to come up with a consumer equivalent. Way back in history, when we had professional noise reduction A-type for music recording, the pressure was on us to come up with something for the



If four channels were already encoded in a movie soundmix, those same four channels could be lifted off a videotape or Laserdisc too. By the late 1980s, home cinema decoders marketed with a 'Dolby Surround' badge could be purchased from your local hi-fi emporium, but included only the L-R circuit for an extracted mono rear channel. Shortly thereafter, 'Dolby Surround Pro-Logic' (literally 'Professional Logic Steering') became available in home decoders as well, just like the cinema, and with the added benefit of the centre channel (L+R).

Although 'Stereo' was the term Dolby used for its theatrical marketing, enthusiasts knew that the term referred to surround sound in auditoriums that could accommodate it, and not just plain vanilla, left-and-right conventional stereo.

Dolby had also developed an enhancement of this analogue technology in cinemas in the 1980s with Dolby Stereo SR (or 'Spectral Recording'), increasing the dynamic range of playback. Furthermore, the 1979 release of *Apocalypse Now* included Dolby Stereo 70mm, a six-track magnetic striping technique, similar to that adopted in the 1950s, but with the company's home-grown noise reduction, and the introduction of split surrounds. This time, though, three screen channels and two rear channels were joined by a discrete .1 low-



frequency effects track, a template of which would be eventually adopted for Dolby Digital.

### The Dark Knight rises in 5.1

1992's *Batman Returns* ushered in Dolby Digital or SR-D in cinemas. Images of tiny data blocks, neatly housed between the sprocket holes of 35mm release prints, could be read by a scanner in the projector and converted into an AC-3 bitstream, delivering 5.1 channels of full-range audio (20Hz -20kHz). The location of the digital data on the film print meant that the space for the optical Dolby Stereo analogue track could be preserved and used as a back-up in the event of failure of a reader or decoder. Predictably, and thankfully, the Dolby Digital AC-3 encoded bitstream found its way onto Laserdiscs in the mid-1990s (and then DVDs), raising the bar once again for home cinema performance.

Yet it was around this time that another company, DTS, began making waves – low-frequency waves of thudding dinosaur footsteps, to be precise. For his 1993 blockbuster *Jurassic Park*, Steven Spielberg adopted the new DTS format, which had been in development since 1991. As with Dolby Digital, it enabled discrete 5.1 soundmixes, but without the same level of compression and with a movie's soundtrack held on a CD-ROM rather than



Left-to-right: *Jurassic Park* introduced DTS to cinema-goers; ...*The Phantom Menace* added a sixth (rear) channel; *Brave* in 2012 carried a Dolby Atmos mix

the film reel. Subsequently (once DTS had also arrived in home cinemas in 1997), AV fans were treated to a format war of sorts, with titles often arriving with a choice of Dolby or DTS soundtracks. This rivalry continues today on the home cinema front, with Dolby's TrueHD and DTS's HD Master Audio formats battling for Blu-ray space.

Dolby hasn't rested on its laurels since Dolby Digital, however. Its products have evolved and developed at a rapid pace, and its home cinema audio technologies are never seemingly more than a couple of years behind their corresponding theatrical debuts. The impact of its later platforms has varied. Dolby Digital Surround EX (which introduced a rear centre channel for a 6.1 configuration) debuted with *Star Wars: The Phantom Menace*, but it's rare to see many home users employing a 6.1 setup, and forward-thinking theatrical releases have moved on to Dolby Surround 7.1 or, most notably, Dolby Atmos. The latter has seen steady adoption by both Hollywood studios and commercial cinemas since its launch in 2012 with Pixar's *Brave*. It's currently the state-of-the-art where Dolby is concerned. What happens next? We'll just have to wait and see...



**Ioan Allen alongside fellow SMPTE gong-getter and Dolby sound consultant Federico Savina**

cassette tape, to catch on to noise reduction in the consumer marketplace.

**It's now 20 years since Dolby Digital 5.1 AC-3 was available for the first time in the home, if our memories are accurate...**

1992 was when it went into the cinema [with *Batman Returns*], so it must have been about 1995. By and large, there's been, in the past, a two- or three-year delay from the professional format to the home. So with Dolby Stereo, I think *Elephant Parts* [1981 comedy sketch movie] was the first VHS tape with four channels encoded into it, and that was certainly two or three years after we'd done the same thing in the cinema.

**Since then, Blu-ray has introduced lossless Dolby TrueHD. What do you think of the results and performance of TrueHD technology?**

My answer is that it's superior because it's lossless compression. Whether the consumer is aware of it or not, it probably requires someone with really good ears and training to hear the difference. Compare 5.1 TrueHD with 5.1 AC-3 and it requires a pretty skilled listener to say that's one or that's the other.

**Film soundtracks have really got quite impressive over the last few years, when you take into account the era of digital workflows, etc. It feels like there's been a marked improvement...**

I don't know. You can go back in history and find some wonderful soundtracks in 5.1, back in the days of Dolby Stereo, like *Apocalypse Now*. But the language of soundmixes changes so that, over a five-year period, you'll notice the language changing, the style, the dynamic range... how much stereo is used, and how much the surrounds are used. And it's an ongoing process. So, the style of a mix today is very different from what it was ten years ago. Not just because of the technology, but because of the

language of storytelling, the style of movie. You know, the more comic book movies there are, that's going to change the style of moviemaking, in terms of the soundtrack.

**Is it fair to say that some comic book movies sound overproduced and are really stretching the palette?**

Yes, I think it's true of the picture as well. And the story. It's all of a muchness.

**What's your favourite movie soundmix?**

No answer!

**How did the idea for Dolby Atmos come about?**

When you have digital files, you have almost limitless capacity for data. On film, for example, the area in between the sprocket holes has limited capacity. I think we have 560 Kilobits per second [kbps]. That will handle 5.1, 6.1, although it would be a push to put 7.1 in there. But the minute you go to a digital file, you've almost got limitless capacity, so it's logical then to adopt a sound system where, if you like, you can fill a hemisphere with sound, anywhere in that circle.

So, the decision then, is how many channels you actually need, and how many objects you can handle. And, as you probably know, we've settled on 64 channels in the theatre, or 64 what I call 'nodes', rather than channels. Although, with the consumer equivalent, I doubt very much that the consumer will consider 64 different nodes.

**What's next for Dolby after Dolby Atmos?**

Give me 'til Friday...

**Has multichannel home audio taken off as you expected?**

Yes, I think so. For a time, people were buying receivers that were equipped to decode [Dolby formats] but didn't actually put up the rear loudspeakers. But, nowadays, the concept of 5.1 in the home is really ubiquitous, I think. It was partly because the speakers got smaller, it was easier for the consumer to do it, and there were more articles in magazines like yours.

Of course, I'm not sure all the speakers are aligned correctly, but in terms of installation, there's a much higher adoption rate now than there was in the beginning.

**Finally, do you agree with your collaborator George Lucas that sound is 50 per cent of the movie-going experience?**

Yes, and I like that phrase because it doesn't imply that sound is more important. I mean, I don't want people running out of the movie theatre saying, 'My God, the sound was terrific!' You want people coming out of the movie theatre saying, 'What a great movie!'. And with that visceral impact of picture and sound together, the technology can make the movie better. You know, you can't take a turkey script and make it wonderful, but you can make a good script even better, without the technology being that obvious ■





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# TO THE STARS



**CHRISTOPHER NOLAN BEGAN** his filmmaking career writing and directing low-budget, smallscale thrillers (*The Following*, *Memento*), but through his Dark Knight trilogy and *Inception*, the 44-year-old British director has earned a reputation for making movies on a grand scale that draw crowds to the multiplex and go down a treat with the home AV community. His latest project *Interstellar* continues that trend. This epic (169-minute) and cash-grabbing (\$650m in ticket sales) sci-fi adventure is surely one of 2015's most anticipated Blu-ray releases – and Nolan's most audacious movie yet. With its tale of an astronaut (Matthew McConaughey) sent through a wormhole into the outer reaches of the universe, *Interstellar* follows in the cinematic footsteps of Stanley Kubrick's *2001: A Space Odyssey* and Robert Zemeckis' *Contact* – science-fiction with a mature theme, more focused on humanity's ability to understand the wonders of its existence than its ability to, well... frag aliens with lasers.

'I want the audience to watch this story unfold on an enormous screen and be transported.



# & BEYOND...

Space-travelling sci-fi flick **Interstellar** is the latest blockbuster from visionary director Christopher Nolan. And, reveals Mark Craven, it's getting ready to dazzle your cinema room

The thrill of making a largescale film about journeying through the stars is taking the audience with us.' So says Nolan of his aim for *Interstellar* – sentiments that should get any true AV-holic salivating. 'I was fortunate to work with an incredible cast and ingenious filmmaking partners. We were all united in an endeavour to make every moment feel real.'

To achieve this largescale vision, Nolan turned to the IMAX format – a decision he'd previously made with the likes of *The Dark Knight*. While there's a growing trend amongst movie-makers to shoot

on digital, Nolan continues to work with film. And he was adamant that the visual impact of *Interstellar* would be a key part of its success.

'We've always been interested in what we could do with imagery, but what I wanted people involved with the film to take on board was that the power of the imagery needed to be a bigger part than it has been in any of our previous films, so that the audience would be directly affected by it, not just by the characters' reactions,'

Nolan explains. >



Christopher Nolan (left) gives star Matthew McConaughey some pointers



## BOLDLY GOING...

Our favourite movies that journey deep into space

### 2001: A Space Odyssey

Stanley Kubrick's 1968 sci-fi masterpiece offers a vast narrative spanning fighting hominids, self-aware computers, mysterious monoliths and psychedelic star gates. Groovy.

### Alien



The best sci-fi chiller ever made, *Alien* introduces a blue collar approach to the world of spaceships, with the crew of the *Nostromo* coming across more like truckers than astronauts.

### Apollo 13

This award-winning true story of the ill-fated 1970 NASA lunar mission, which left three astronauts stranded in space, perfectly captures the joy and anxiety surrounding space travel. And gives your subwoofer something to worry about.

### Event Horizon



Hidden beneath this film's quality cast and glossy production is a truly nightmarish tale that brings an unexpected sense of Gothic horror – and gore – to the depths of space. Underrated.

### Frau Im Mond

Fritz Lang's terrific 1929 slice of speculative silent cinema predicts many aspects of space travel, including multi-stage rockets and launch countdowns, at a time when Pluto still hadn't been discovered.

### Contact



Based on a book by cosmologist Carl Sagan, this 1997 flick packs ground-breaking SFX and a smart science vs religion theme.

To achieve its awe-inspiring visuals *Interstellar* was lensed using IMAX cameras



'From a technical point of view, that steered us in a much more adventurous direction.'

Shooting with hulking IMAX cameras poses problems, of course, especially as the filmmaker wanted, at times, to retain a documentary-style feel normally achieved with handheld cameras. The production crew knew the largescale format would be perfect for the film's big, exterior vistas and outer-space FX, but could it be used in smaller, more intimate environments? Cinematographer Hoyte van Hoytema believed it could, and determined to carry it on his shoulder regardless of the potential back ache. 'That freed us up to shoot a lot more with the IMAX camera than we initially thought possible,' concedes Nolan, while Van Hoytema himself admits it was an essential part of his role: 'This is a very visual story, but it also has a lot of soul, and that's something you need to preserve. We wanted to find a way to use the IMAX camera almost like the world's heaviest Go-Pro camera. This way, we could be loose and improvisational with the close-ups and dialogue moments, but within the beautiful depth of the IMAX frame.'

Projector and bigscreen TV-owners will be rewarded when (as with Nolan's previous movies) the Blu-ray's aspect ratio alters to showcase the impact of the IMAX footage.

Working hand-in-hand with *Interstellar*'s ambitious cinematography are the movie's award-winning special effects. The sci-fi genre is a perfect canvas for CGI masters to amaze and astonish audiences, and this is no exception. However, with a long production schedule and big budget to draw upon, Nolan

endeavoured to deliver the most realistic depiction of space travel – and associated phenomena – ever seen in cinema. And how do you do that? By calling upon the grey matter of celebrated astrophysicist and former Caltech professor Kip Thorne.

Thorne, who ends up with an executive producer credit, began to collaborate with visual effects supervisor Paul Franklin of London-based outfit Double Negative during pre-production, with the aim of providing an unprecedented sheen of authenticity to the onscreen universe. Double Negative's designers and software developers were tasked with formulating CG objects that would be as near as possible to contemporary scientific understanding, and researched imagery from the UK's Royal Observatory's archives and the Hubble telescope. Even the film's starscapes are based upon NASA's database of 2.5 million stars.

'Working with Kip was phenomenal,' reveals Franklin, who has since collected both BAFTA and Academy Awards for his work on the movie. 'He's obviously one of the greatest physicists of the twentieth century, but he has a creative, artistic soul as well.'

He was very willing to engage with us to use these extraordinary theories and ideas to tell a story. He was generous with his time and his knowledge of the math involved in a wormhole and the black hole. We want people to go on that ride.'

The relationship between science whizz and VFX crew actually worked both ways: Thorne's equations on gravitational





'lensing', the impact that gravity imparts on light around a black hole, were used to render objects at a higher resolution and accuracy than had ever been previously attempted. Thorne even states that the whole process has served as an education. 'We've seen things that amazed me. We learned some weird things about the visual appearance of black holes and wormholes...'

*Interstellar's* budget wasn't entirely spent on mind-blowing CG imagery, though. For the movie's spacecraft, old-fashioned elbow grease was employed to develop largescale models that could be put into motion on a six-axis gimbal at the Sony Studios' soundstage. The waterproofed, fibre-glass coated models were big enough (and detailed enough) for cameras to be mounted to them, and then filmed by Nolan in front of celestial background plates, rather than green screen, to capture lighting details. 'It's a lot of effort to go to, but since we already built the ships for other reasons, it seemed the best thing would be to maximize their use.'

### Settling the score

*Interstellar*, perhaps surprisingly considering the success of *Gravity* a year before and its subject matter, wasn't released with a theatrical Dolby Atmos mix – so don't look for one on Warner's Blu-ray release. Yet its audio garnered three Academy Award nominations (Best Music, Best Sound Editing and Best Sound Mixing), despite being criticised by some for its less than crystal-clear dialogue.

Indeed, cinema-goer complaints about *Interstellar's* soundmix prompted its director to speak up publicly in its defence. Nolan told *The Hollywood Reporter* late last year that his

movie's 'impressionistic' sound design was suited to such an 'experiential film.'

'I don't agree with the idea that you can only achieve clarity through dialogue,' said the filmmaker. 'Clarity of story, clarity of emotions. I try to achieve that in a very layered way using all the different things at my disposal – picture and sound.'

For the score, Nolan reunited with long-term collaborator Hans Zimmer. The German composer, eager to tread a different path to his work on the Dark Knight films, found inspiration in the organ. 'There's something very human about the organ because it needs to breathe,' he says. 'At its height, there's so much air being pushed into the room that you feel it in your solar plexus and the windows start rattling. It's a complicated piece of technology, but creates sounds with a very primeval and dangerous quality.'

An orchestra was then assembled with other traditional instruments, some of them centuries old, and a bevy of world-class musicians called into action. The venue for the soundtrack recording? London's Temple Church, a 12th-century building just off Fleet Street. 'The whole point of its architecture is to take you to other worlds, and we wanted to use the quality of the space itself to take us on this journey,' states Zimmer. Forty-five scoring sessions were completed before moving on to the mixing stage.

'I consider the results to be among Hans' finest work,' enthuses Nolan. 'It's an extraordinary score, different from anything we've ever done together.'

So: a mammoth budget, stonking special effects, groundbreaking cinematography, *bona fide* science and an impressionist soundmix. If you're not excited by the prospect of seeing *Interstellar* in your movie den then you're probably an extraterrestrial... ■

## WIN! WIN!

Fancy winning a copy of *Interstellar* on Blu-ray? Of course you do...



Christopher Nolan's science-fiction blockbuster *Interstellar* blasts off on Digital HD on March 17, followed by DVD and Blu-ray on March 30. To celebrate this hotly-anticipated release, Warner Bros. Home Entertainment has given us five copies of the Blu-ray to dish out.

The double-disc *Interstellar* Blu-ray includes more than three hours of bonus features detailing the epic shoot, the creation of the film's award-winning visual effects, and an 'extended cut' of *The Science of Interstellar* broadcast special.

To be in with a chance of winning a copy of the Blu-ray, answer the following brain-teaser...

### Question:

*Interstellar* star Matthew McConaughey played Detective Rust Cohle in which recent hit US TV series?

### Answer:

- A) *Breaking Bad*
- B) *The Wire*
- C) *True Detective*

Email your answer to [Competitions@homecinemachoice.com](mailto:Competitions@homecinemachoice.com) with '*Interstellar*' as the subject heading – and include your postal address!

Full terms and conditions can be found on p88.



The *Ranger* spacecraft in residence at Sony Studios in California





# Top-flight filmic fun

This loft space-turned-cinema room mixes bespoke acoustic treatment and lighting with hidden AV talents. **Mark Craven** reports



The rest of the property features a plethora of wall-mounted flatscreens, all managed via a Crestron distribution system in the top-floor kit rack

**WITH ITS CUSTOM-MADE** star ceiling, smart lighting array and practically invisible AV gear, this loft conversion cinema room certainly looks the part. Yet implementing the owner's wishes for a 'high-end yet multi-functional space' suited to the whole family required some careful consideration from installer West London AV Solutions when it came to room acoustics and sound management. Numerous pitches created by the exterior sloping roof and dormer windows necessitated acoustic treatment to get the best from the speaker/amp array, and there was the issue of soundproofing to ensure late-night movie marathons didn't upset the rest of the household. The overall space, says the installer, was 'awkward.'

The room was an unfinished shell when work started, as the cinema room was a last-minute addition to a whole-house refurbishment; the first step was to carry out a sound isolation/construction survey. Then, the existing floorboards were removed and a 15mm acoustic underlay fitted to limit noise leakage to the bedrooms below (rated at 51dB attenuation). In addition, an ARS (Acoustic Room System) from CinemaTech was installed to the walls, sloped and flat ceiling sections, using fixed absorber and diffuser panels to create a custom sonic performance – all topped with >

## KIT CHECKLIST

**IMAGE:** Acoustically transparent two-way masking Art Masque Screen, 2.6m wide, 2.35:1

**DIGITAL PROJECTION:** M-Vision Cine260L 1080p 2,000 Lumen projector

**LUMAGEN:** Radiance Mini 3D video processor

**AUDIOPACK:** PJ mirror reflection system

**ADA:** Suite 7.1 HD home cinema pre-amp/processor; PTM-8150 8 x 250W power amplifier

**LEON:** 3 x Profile PR505-X-A in-wall speakers; 2 x Axis 81 in-ceiling speakers; 4 x in-wall 10in UT subwoofers; 2 x L3-1K rack-mounted amplifiers

**CRESTRON:** Crestron CP2E controller; MTX-3 colour touchscreen remote

**SONY:** PlayStation console

**OPPO:** Blu-ray player

**CINEMATECH:** Bespoke seating; ARS room acoustic treatment



an acoustically transparent fabric for a seamless finish.

Multichannel audio comes 5.4-flavoured, with all the speakers from in-wall specialist Leon. The quartet of subwoofers (ultra-thin models with 10in drivers) are powered by rack-mounted Leon amps. Power and processing is handled by hardware from ADA, a slim-line Suite 7.1 HD processor tethered to a PTM-8150 8 x 250W amplifier.

#### A place for everything...

Going in-wall for the speakers and accommodating AV equipment (including the Oppo Blu-ray player and other source gear) in a rack in an adjacent room meant West London AV Solutions could meet another of the owner's demands for the room – that it had to also function as a regular living space, and not be dominated aesthetically by electronics. This even extends to the projector (an LED-based M-Vision Cine260L from Digital Projection), which is recessed in the ceiling and fires its 1080p visuals via an automated drop-down Audipack Mirror-Kit system. 'This solution allowed us to completely conceal the projector when not in use,' says the installer.

While visitors to the house are no doubt wowed by the cinema setup their eyes will also be drawn to this room's design flourishes. Firstly, there's that impressive star ceiling, consisting of a fibre optic run with 168 'tails' of differing diameters, giving around 16 stars per square metre – all integrated with the ceiling-mounted acoustic treatment. Then there's the LED illumination around both the ceiling rim and the skirting boards, offering bespoke control (with different scenes, brightness and colours) via a Crestron touchscreen controller or Apple iPad. The seating, too, is suitably plush – culled from CinemaTech's sectional sofa range, in the 'Bavarian' line, it offers motorised recline for its individual seats. The prime viewing spot is obviously opposite the screen, but the against-the-wall row provides ample space for general entertaining.

A final, attention-grabbing finishing touch is the custom screen print that adorns the Image Screens two-way masking projector screen. When the screen is not in action, it displays Batman staring moodily out over Gotham city... ■



#### INSTALL INFO

##### A MUSIC ON THE MOVE

Enjoying music and radio throughout the house is made possible by a Sonos multiroom system

##### B LIGHT FANTASTIC

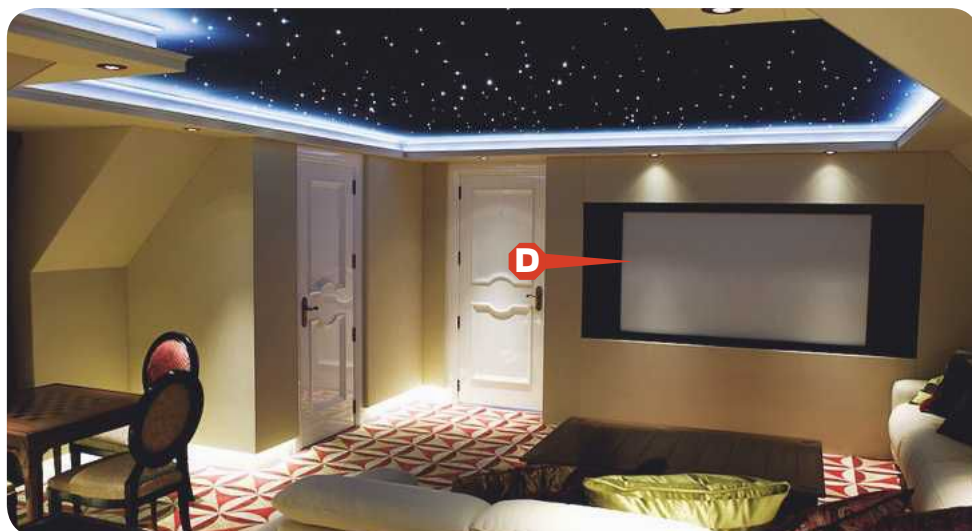
This showpiece lighting effect is custom-designed, with 168 separate stars and remote control over their 'twinkles'

##### C FULLY FURNISHED

The CinemaTech sectional seating features a custom leather finish and motorised reclining for each seat

##### D IMMACULATE IMAGE

The wall-mounted projector screen is from Image Screens, a 2.35:1 ratio, 2.6m-wide model with two-way masking and acoustically transparent material to optimise the performance of the Leon speakers behind







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**YAMAHA**

Yamaha RXA 2040  
(atmos amp) and  
BDA1040 Blu Ray



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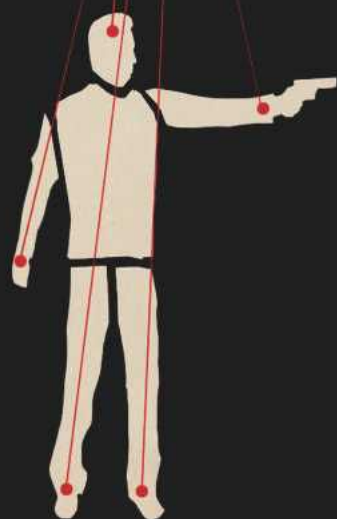
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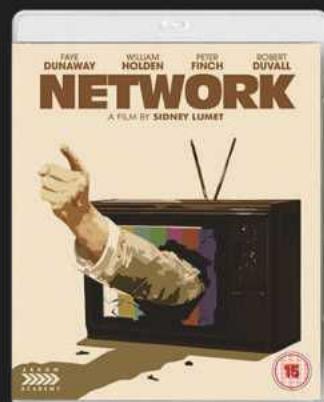
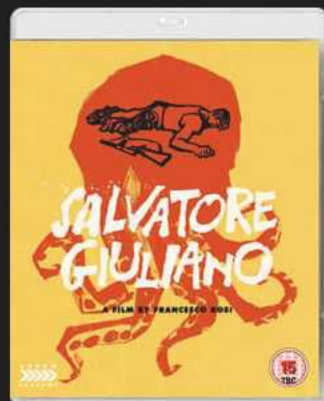
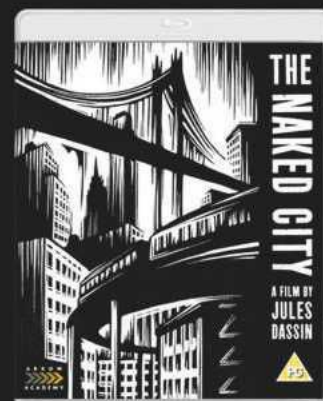
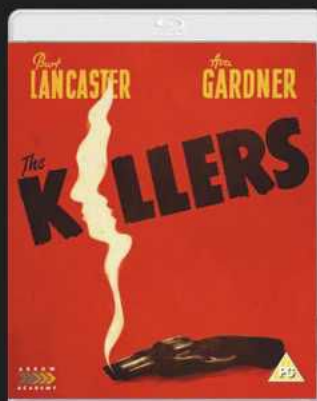
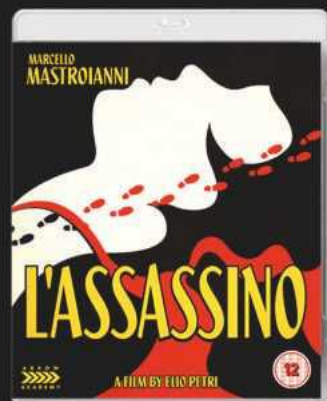
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# REVIEWS

→ **HARDWARE HIGHLIGHTS** ONKYO Flagship 11.2-channel Dolby Atmos AV receiver  
 CAMBRIDGE AUDIO £300 TV5 soundbase speaker MISSION 5.1 system with palm-sized satellites  
 DENON HEOS multiroom system SHARP 60in 4K/UHD TV at a bargain price HUMAX Second-gen  
 YouView PVR PHILIPS Slim-line soundbar/sub combi TIDAL Music streaming platform **AND MORE**



**Fabulous faber?**

Sonus faber's Venere speakers promise high-quality home audio. Do they succeed? See p54

**HCC RATINGS KEY...**

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆

Onkyo's TX-NR3030 is a 3D audio powerhouse.  
**Steve May** joins the rebellion

# Atmos on fire!

**DOLBY ATMOS, THE** next-generation object-based surround sound system, may only just have migrated from commercial theatres to home cinemas but it's already available on AV receivers selling for little more than a Black Friday flatscreen.

Onkyo offers a remote app to go with its regular handset



Inevitably, such inexpensive Atmos translates to a basic configuration, 5.1.2 in AV-holic parlance (regular 5.1 with a couple of height channels). But I can't help feeling Atmos's long-term appeal lies higher up the food chain. Enter Onkyo's brawny TX-NR3030, which boasts an indulgent 11.2-channel design. Without the need to resort to any extra amplification (which is currently the solution proffered by its main rivals), you can install the TX-NR3030 in a premium 7.2 configuration with four Atmos channels (literally) on top. That's like ordering a sticky toffee pudding and adding a spotted dick garnish.

In terms of hierarchy, the TX-NR3030 sits just above the 9.2-channel TX-NR1030 and a trio of seven-channel models – the TX-NR838, TX-NR737 and TX-NR636.

Design-wise, the TX-NR3030 emulates the clean lines found elsewhere in the brand's 2014/15 lineup. An info-packed status display is flanked by volume knob and power button, while menu functionality and bonus inputs (HDMI/MHL, USB, phono AV and digital optical audio) are tucked behind a fascia flap.

Rear-placed connectivity includes seven HDMI inputs, all 4K compatible up to 60fps, with one input (HDMI 3) being HDCP 2.2-ready. These route to three HDMI outputs, which typically would be used to feed TV and projector in a cinema room, with the third providing video to a second viewing zone. HDMI passthrough lets any designated connected source journey through the AVR



With its HDCP 2.2 support, the TX-NR3030 is ready for 4K sources





#### AV INFO

**PRODUCT:**  
11.2-channel  
Atmos-enabled  
AV receiver

**POSITIONING:**  
Onkyo's current  
range-topper

**PEERS:**  
Denon AVR-  
X5200W;  
Pioneer SC-LX88





The trio of HDMI outputs increases system flexibility

when it's in standby, so the system doesn't need to be powered just to watch *Loose Women* from a connected STB.

That aforementioned HDCP 2.2 compatibility is important, not least because Ultra HD Blu-ray will almost certainly employ the next-gen copy protection format. If you expect to route your 4K player through an AVR, then you'll want HDCP 2.2 compliance. Some rival products talk of offering 4K passthrough, but that'll be of little solace if the only thing passed through is a black screen. It's worth noting that only the main HDMI output on the TX-NR3030 is also HDCP 2.2 compliant. I suspect early UHD disc spinners will offer dual HDMI outputs (one audio/one video) to combat connectivity problems with legacy AVRs, but the implications about future 4K sources are clear.

You can network the Onkyo via wired Ethernet or Wi-Fi; two antennas sit on the rear. You can also stream over Bluetooth. If your source material is more old school, take comfort from the forest of legacy inputs. There are two component video inputs and six digital audio options (three coaxial, three optical).

Helpfully, anything you connect will be upscaled and squirted out over HDMI, courtesy of a Qdeo chipset from Marvell. There are also 11.4-channel pre-outs, and balanced XLR pre-outs.

### Powerhouse in disguise

Build quality is admirable. The chassis itself is nicely finished, while beneath the bonnet you'll

find a trio of transformers (maybe they're called Optimus Prime, Bumblebee and Ratchet...), decoupled amplification and processing modules, plus seven 32-bit Burr-Brown D/A converters.

Functionality is similarly impressive – streaming service support includes internet radio, Aupeo!, Spotify and Deezer – while file compatibility is broad. The receiver is DLNA-ready, enabling it to stream from connected NAS devices, PCs and connected USB drives. All common audio codecs and containers are supported, including MP3, WMA, WAV, AAC, OGG, FLAC and DSD. For those living in a time warp, there's also an analogue radio tuner.

The TX-NR3030 boasts many labels, one of which is THX Select2 Plus (Ultra2 certification is found on Onkyo's separate power amp/processor pair). This means you can take advantage of THX post-processing should you like that sort of thing (and who doesn't?). THX Surround EX, for 7.1 from 5.1 sources, is particularly effective, and Dolby Surround will map incoming sources to an Atmos speaker array. There's also an assortment of Movie, Music and Game modes, as well as a Pure Audio mode which turns off both the video display and analogue video circuit. Curiously, this can only be activated from the main unit, via a button placed directly under the Power switch (in my darkened viewing room I routinely pressed the wrong one). To simply hear all content as delivered by the source, opt for Direct.

While the receiver is compatible with DTS-HD Master Audio and its subsets, as well as Atmos/TrueHD, there's no provision for Auro-3D. Some might find this frustrating, but the reality is there's no movie software at all for the format currently available.

AVR setup is via Onkyo's own AccuEQ system, using a supplied mic. It's not the most sophisticated auto calibration in the world, but necessary to help the renderer in the receiver know what loudspeakers are attached. Don't feel obliged to keep the resulting system settings (although they're perfectly serviceable). I got my best results when I went off-piste. Tweaking can be a perennial pleasure.



Additional inputs are hidden behind a front flap



For this audition, two different makes of Dolby Atmos-enabled upfiring speakers were used: a pair of diminutive Onkyo SKH-410s and a couple of Definitive Technology A60s. The latter can be crossed over a tad lower. Using genuine Dolby-enabled speakers to bounce Atmos content is important. Not only do they have correctly angled drivers, there's matching psycho-acoustic processing at play.

You can, of course, use dedicated in-ceiling speakers for the height channels, but ceiling proximity could be an issue. If they're too

**'The kind of home cinema receiver able to leave any sourpuss grinning like a Cheshire cat'**

low the Atmos channel becomes localisable. I actually prefer the audio effect created by Dolby's reflective solution. It's surprisingly effective – and a simpler install.

### Feeling peckish for Atmos

*Hunger Games: Mockingjay Part 1* (Blu-ray) may not be big on inflammatory action sequences (see our disc review on p94), but the subtle embellishments evident in its Atmos soundtrack really add to the viewing experience. When Katniss hops in a hovercraft to visit bombed-out District 8, you feel as if the ship's gusting turbines are blowing debris into the corner of your room. When her ride takes off, you'll expect the roof to follow.

The ensuing hospital action sequence is a sonic thriller: air raid sirens fill the Atmos height channels, before anti-aircraft fire throws rubble behind your head. As if the Panem bomber fly-overs aren't visceral enough, goosebumps are well and truly raised when Everdeen scene-steals with her retaliatory arrow take-down. The downed craft smashes centre left, causing a chimney stack to fall the length of the viewing room. It's enough to make you want to throw your popcorn in the air and cheer.

Heard in a commercial theatre, Atmos delivers unparalleled image placement. The soundfield is circular, with seamless steering between conventional sonic bed and canopy-like height channels. It's an uncanny, intimate experience. When heard in this 7.2.4 configuration, the Onkyo iteration comes remarkably close. When the twig breaks in the front right-hand channel during the Atmos trailer *Leaf*, the snap is preternaturally crisp. Said leaf then circles the listening space, demonstrating seamless image panning.

When it comes to power output, Onkyo plays Wattage close to its chest. For the TX-NR3030 it boasts 185W into six ohms

with one channel driven, but this will round down when the amp is in full flight. I'm doubtful the Atmos channels are getting anything like that headline figure. That said, there are Putin-like power reserves available. Not only is the TX-NR3030 additively dynamic, it's also incredibly light on its feet, delivering delicious detail with a delicacy that belies its AV hulk status. But when it needs to raise hell, Lucifer himself is on hand to crank up the volume.

If you're pondering an Atmos upgrade, it's worth noting that there's a very noticeable difference between a x.x.2 and x.x.4 setup. For one thing, the system is a lot easier to set up. When you're running a single pair of Atmos height channels, immersive balance can be a challenge to achieve unless you're in a relatively small room.

What's more, if you upgrade from a standard seven-channel receiver to a 5.1.2 Atmos equivalent, you'll very quickly become aware that there's a gaping hole at the back of the soundfield where your rear backs used to be. Thankfully that sacrifice doesn't apply with the 11-channel TX-NR3030. The traditional wraparound DTS-HD MA and TrueHD 7.1 soundfield is still available, augmented by a four-channel fug of Atmos which doesn't so much pour from the ceiling as permeate the ether. *Sans* Atmos, the AVR's DTS-HD MA performance is exemplary. When the Golden Army rise in *Hellboy 2*, the clattering, thumping automatons have all encompassing, rafter-raising weight. This is classic multichannel home cinema at its best.

The TX-NR3030 is perhaps not really suitable for a smaller room or den, as the sheer number of channels driven will most likely clutter out the room. But for mid-size home theatres it's right on the money, and if you have the wherewithal to build a dedicated venue with on-wall or in-wall/in-ceiling speakers, all the better.

It's also a solid hi-fi performer. Two-channel, hi-res audio offers pronounced articulation. There's nothing heavy-handed or gloopy about its stereo imaging.

Overall usability is okay. Onkyo's menus offer comprehensive control, although at times the onscreen display went out of sync with menu navigation on the AVR itself. Hopefully a promised firmware update will fix this.

### Practically purrfect

The TX-NR3030 is the kind of home cinema receiver able to leave any sourpuss grinning like a Cheshire cat. I've been anxiously awaiting an integrated Dolby Atmos 7.2.4 solution, and it doesn't disappoint. It's lithe and musical, muscular when it needs to be (although not overly brawny), and in full 7.2.4 it's consistently, insanely entertaining. If you're looking for no-compromise, high-octane home theatre, the Onkyo TX-NR3030 nails it ■

### ON THE MENU



→ Not the most colour-rich of UIs, but setup options are plentiful and the layout is sensible

### SPECIFICATIONS

**DOLBY ATMOS:** Yes. Plus Dolby TrueHD

**DTS-HD MASTER AUDIO:** Yes

**THX:** Yes. Select2 Plus

**MULTICHANNEL INPUT:** No

**MULTICHANNEL OUTPUT:** 11.4 pre-outs

**POWER OUTPUT (CLAIMED):** 11 x 185W

(6 ohms, one channel driven)

**MULTIROOM:** Yes. Three zones

**AV INPUTS:** 4 x composite; 6 x digital audio

(3 x optical and 3 x coaxial)

**HDMI:** 8 x inputs; 3 x outputs (v2.0)

**VIDEO UPSCALING:** Yes. To 2,160p

**COMPONENT VIDEO:** 2 x inputs; 1 x output

**DIMENSIONS:** 435(w) x 466.5(d) x 199(h)mm

**WEIGHT:** 22kg

**ALSO FEATURING:** AccuEQ auto-calibration with setup microphone; Bluetooth; integrated 2.4GHz Wi-Fi; Spotify Connect; internet radio; AM/FM tuner; HDCP 2.2 copy protection input/output; Qdeo video processing; twin LFE outputs; 12V trigger for zones 2/3; RS232; balanced L/R pre-outs

### HCC VERDICT



### Onkyo TX-NR3030

→ £2,500 Approx → [www.uk.onkyo.com](http://www.uk.onkyo.com)

→ Tel: 08142 4208 11

**HIGHS:** Uncompromised DTS-HD MA/TrueHD 7.1 performance allied to a quartet of atmospheric Atmos channels; lively, dynamic sound; great with all sources; HDCP 2.2 compliant

**LOWS:** Sometimes sluggish UI; not as beefy as some high-end 9.2 competitors; no Auro-3D

**Performance** ★★★★★

**Design** ★★★★★

**Features** ★★★★★

**Overall** ★★★★★

**Danny Phillips** loves the design of this sub/sat system – but will he also love its performance?

# Six-sided six-pack goes on a Mission



## AV INFO

**PRODUCT:**  
Compact  
5.1-channel  
speaker package

**POSITIONING:**  
Mission's only  
compact line, below  
MX and VX series

**PEERS:**  
Monitor Audio MASS;  
Definitive Technology  
ProCinema 600;  
Polk TL1600



**YOU MIGHT FIND** this hard to believe, but the life of a home cinema reviewer isn't all parties and press lunches. Hauling huge floorstanders and whopping subwoofers around the test room is a big part of the job, an activity that'll give you a bad back quicker than you can say sciatica.



So when a system like Mission's M<sup>3</sup> (or M-Cubed) comes along, it's easy to breathe a sigh of relief. The five adorably compact satellites, each measuring just 90mm high, can be manoeuvred into position without the aid of a girdle, and when in situ they don't take up vast swathes of living room space. Even the 274mm-wide subwoofer will slip next to your telly virtually unnoticed.

Herein lies the appeal of the M<sup>3</sup>. It's a discreet, space-saving speaker system that delivers 5.1-channel sound without posing installation headaches. If you want to add satellites to create a 7.1 (or more) array then it's no problem – they're also sold separately.

Of course, the downside of diminutive speakers is that they often fail to deliver the wide, room-filling sound offered by larger designs, only hitting the sonic heights when you're sitting on-axis. Mission aims to get around that issue through the use of Balanced Mode Radiator (BMR) drivers. These 3in flat drive units – developed over five years by Mission engineers – disperse sound at a 60-degree angle, hopefully wide enough for everyone in the room to experience the same sound quality regardless of seating position, making the sweet spot a thing of the past. It also means the speakers don't have to be toed in towards the listener, and it doesn't matter if you have to place them against a wall or in the corner of the room. In fact, Mission says placing them against a wall or in a corner will enhance performance, with reflections from the surfaces boosting overall power while avoiding the interference that leads to colouration.

The use of BMR drivers is an evolution from the NXT drivers used by M<sup>3</sup>'s 2005 predecessor, M-Cube. Those NXT drivers couldn't handle the full frequency range and had to be connected to the subwoofer to receive a filtered signal. The M<sup>3</sup>'s sats, on the other hand, can handle a 120Hz-20kHz signal and can therefore be connected directly to your AV receiver (set speakers to 'small').

### In the palm of your hand

The five identical satellites are beautifully designed. They employ weighty sealed aluminium enclosures with rounded corners, framing the distinctive BMR driver on the front. Hold one in your hand – as is entirely possible given the dimensions – and you get an immediate feeling of quality.

Colour-wise, the M<sup>3</sup> system was only available in black at the time of writing, but a white version should be on sale by the time you read this.

The sats are pre-fitted with table stands but can be mounted on a wall using supplied brackets, and the speaker can be tilted to the desired angle. On the back are metal binding posts that grip cables firmly.

The subwoofer supports the sats with an 8in long-throw driver and a 200W Class D



Solid binding posts adorn each satellite speaker

amplifier. Built into an 18mm-thick MDF enclosure, the sub feels sturdy enough to withstand the bass rigours of your average blockbuster, while the black matte finish ensures a tasteful, discreet appearance.

On the back are knobs and switches for low-frequency tweaking. They include volume, crossover frequency and phase controls, plus LFE and line-level inputs. Set your AVR to 120Hz for the best blend with the satellites.

Given the speakers' laid-back attitude towards placement, unpacking and installing the system is a piece of cake. I placed them, as most buyers will, around the my room on

**'Entertaining and surprisingly big in scale... the sub offers rhythmic bass locked tightly to the midrange'**

my TV stand and AV furniture, as close to the walls as possible. If you're working within tight space constraints, this level of freedom is welcome. It didn't take me long to find a pleasing balance between the subwoofer and sats either, just some careful tweaking of the volume dial.

### Taking them for a spin

Mission says the use of a single BMR driver and lack of crossover makes the satellites easy to drive – great news for owners of budget amps with modest power ratings. Indeed, it didn't take much encouragement from my Onkyo TX-NR818 to provoke the M³ array into making a rousing noise.

I let the system rip with *Edge of Tomorrow* on Blu-ray and it's clear that Mission wasn't kidding about its ability to kick out a big, expansive sound. Every time Cage (Tom Cruise) is dropped onto the beach to battle the Mimics you're plunged into a maelstrom of beefy explosions, fizzing missiles and frenzied

battle cries coming from all directions. It's hard to believe these speakers are making such an expansive, immersive sound.

It's entertaining and surprisingly big in scale, and much of the credit for this should go to the little subwoofer. Rapid machine-gunfire and quadcopter blades are underpinned by rhythmic bass that locks tightly to the midrange. The sub's seamless integration lends depth and solidity to everything from booming voices to the stomping score.

Another high point is the system's tonal uniformity, which moves roaring aircraft and missiles between channels without distracting shifts in timbre. This is one of the big benefits of buying an all-in-one package with identical satellites. Mission's claims of uniform sound quality from multiple positions also ring true. I moved to several seats in the room while the movie played and couldn't detect any dip in treble clarity or power.

That said, it's a pity the system errs on the safe side tonally. It's certainly crisp and dynamic, conveying movie effects in a lively manner, but it lacks the bite needed to get the adrenalin flowing. I also found the system missed a little clarity and precision in the high frequencies compared with rival compact systems. Don't get me wrong, this array does a good job, picking out the hiss of exploding sand and gentle echoes inside the Mimics' Berlin lair well enough. But recent systems I've tested, like the Polk TL1600 and Q Acoustics 2000i, render these scenes with an added veneer of detail, teasing out nuances in voices and music that just don't seem present in the Mission's sound. The trade-off, of course, is the powerful and enveloping soundstage here, which engulfs you in a way the above packages don't.

Musically this M³ 5.1 set turns in an enjoyable performance, driven by the agile, rhythmic sub and expressive satellites. Again, it lacks some finesse in the percussion and vocals, but the cohesive, warm sound is one I could really get onboard with.

### Solid offering

The ability of Mission's newest sub/sat offering to deliver a room-filling output from tiny speakers will certainly win it a lot of fans. Powerful, cohesive and well integrated, it's a sound you can lose yourself in, while the solid build quality and quirky yet classy looks help justify the price. Its widely dispersed soundfield will suit unconventional room setups. However, sharper detail clarity and a little more bite would have taken its performance to the next level ■

### SPECIFICATIONS

#### M³ SATELLITES

**DRIVE UNITS:** 1 x full-range 3.25in BMR panel driver  
**ENCLOSURE:** Sealed  
**FREQUENCY RESPONSE:** 120Hz-20kHz  
**SENSITIVITY:** 84dB  
**POWER HANDLING:** 40-80W  
**DIMENSIONS:** 90(w) x 90(h) x 97(d)mm  
**WEIGHT:** 0.75kg

#### M³ SUBWOOFER

**DRIVE UNITS:** 8in long-throw bass driver  
**ENCLOSURE:** Sealed  
**LOW FREQUENCY RESPONSE:** 35Hz-120Hz  
**ON BOARD POWER:** 200W  
**REMOTE CONTROL:** No  
**DIMENSIONS:** 276(w) x 274(h) x 274(d)mm  
**WEIGHT:** 7.88kg  
**CONNECTIONS:** LFE input; line-level input

### HCC VERDICT



#### Mission M³

→ £700 Approx → [www.mission.co.uk](http://www.mission.co.uk)  
 → Tel: 01480 447700

**HIGHS:** Discreet and easy to install; big, room-filling sound; excellent bass integration; a lively and enveloping sound; top-drawer build quality  
**LOWS:** Needs a touch more bite; detail could be clearer and more precise; not a budget option

**Performance** ★★★★★

**Design** ★★★★★

**Features** ★★★★★

**Overall** ★★★★★



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**Mark Craven** finds this Cambridge Audio soundbase speaker plotting a clever path between bass heft and detailed highs

# Sonic balancing act

**SOUNDBASE SPEAKERS ARE** such an obvious idea it's remarkable they haven't been around for longer. Take the TV audio-boosting notion of a soundbar, throw in some sizable bass drivers, build it all into a rugged but discreet enclosure, and park a flatscreen on top of it. I wish I'd thought of it myself.

Cambridge Audio's TV5 is the company's biggest and best model. Measuring 72.5cm wide and 34cm deep, its top plate is roomy enough to support the stands of all but the most largescale flatscreens, but doesn't look

like overkill supporting a 32in set either. The composite wood cabinet seems sturdy, and overall build is fine.

Lift up the TV5 and you come face-to-face with a pair of 6.5in down-firing bass drivers.

Remove the cloth grille from the front panel and you'll find another pair of drivers, in this instance 2.25in BMR (Balanced Mode Radiator) units that promise good off-axis performance thanks to wide dispersion characteristics. Powering this 2.1 configuration is a 100W amplifier, which in the numbers game isn't the highest figure around. But it's not what you've got but what you do with it that counts.

Bonus features are few and far between, but that's par for the soundbase course. The TV5 offers optical digital audio, stereo

## AV INFO

**PRODUCT:** 2.1-channel soundbase speaker

**POSITIONING:** Above the TV2 and Minx TV in Cambridge Audio's stable

**PEERS:** Canton DM50; Yamaha SRT-1000; Roth Neo 6.2 Soundcore



The TV5 packs two 6.5in bass drivers on its underside





analogue and 3.5mm inputs, plus aptX Bluetooth streaming. There's no NFC connection, but that's not going to keep me awake at night.

The supplied handset is slinky in a way the soundbase itself isn't. It's very responsive and lemon squeaky to use, but I'd recommend setting your TV's handset to control the TV5 (a quick process achieved by pushing some buttons hidden behind the front grille), too, for total system integration.

### Don't mind me...

Finding something to criticise about the Cambridge Audio's performance is difficult. This soundbase does its job with such consummate ease, such unruffled panache, that it's immediately likeable. I can't imagine anyone forking out £300 for it and being unimpressed.

There's a fantastically balanced soundfield on offer here. From bass notes through mid-range details and high-frequency effects, the TV5 favours none over the other. Some products seek to persuade buyers that a booming bass presence equals home cinema heaven, but it's no use if it comes at a detriment to the rest of the frequency range.

With 2012's thrillingly demented sci-fi reboot *Total Recall* (Blu-ray), lower frequencies have body and depth without being bloated. The stylised bass throbs that accompany much of the action atop *The Fall* at the film's climax are taut and genuinely impressive, exciting the air and bringing a cinematic sense to

**'BMR drivers work well to disperse sound into the room... add in the bass drivers and you have plenty of scale'**

proceedings. Meanwhile, robot footsteps, cracking glass, machine-gun fire and hissing rain – there's plenty of detail in the soundmix and this soundbase ekes it all out. Effects generally hit fast and hard.

The barked orders of Coahaagen (Bryan Cranston) and Lori (Kate Beckinsale) are extremely clear. Dialogue has real presence, and this mid-range strength is an obvious bonus when using the TV5 for everyday TV fare, or for music playback. The alto vocals and electric guitar licks of soaring track *Madness* by Muse (CD) are cleanly conveyed.

The soundfield here is resolutely stereo, but those BMR drivers do work well to reach the shell-likes of those sitting away from the traditional sweet spot. Add in the potent bass drivers and you have a sound that offers plenty of scale.

If you're stepping down from a budget all-in-one system to the Cambridge Audio you will immediately notice the absence of surround channel tricks and HDMI connectivity. But you certainly won't miss the metres of plastic speaker wire and the afternoon spent unboxing everything.

### DSP headscratcher

My only real gripe is with the TV5's DSP modes. Cambridge Audio provides four presets, selected via the handset – Voice, Music, Film and TV. In truth, there are only subtle differences between the latter three (Film appears to add a minor bass boost), while Voice is unappealing in the way it trims both high and low frequencies to push the mid-range forward. The result is boxy-sounding and unnatural, and best ignored. And, with no visual indication as to what DSP mode is selected – the soundbase's glowing LED is limited to highlighting status changes and input selection – you won't know which you're using. Unless it's Voice, obviously. I ended up opting for Film and left it there.

This niggle is easy to overlook, however. On the whole, Cambridge Audio's TV5 is quick to install, pleasant to look at and great to listen to. Highly recommended ■

### SPECIFICATIONS

**DRIVERS:** 2 x 2.25in BMR drivers; 2 x 6.5in bass drivers

**AMPLIFICATION:** 100W

**CONNECTIONS:** Optical digital audio input; 3.5mm minijack input; stereo analogue audio input

**DOLBY TRUEHD/DTS-HD MA:** No/No

**SEPARATE SUB:** No

**REMOTE CONTROL:** Yes

**DIMENSIONS:** 725(w) x 100(h) x 340(d)mm

**WEIGHT:** 11kg (packaged)

**FEATURES:** aptX Bluetooth; Film, Music, Voice and TV presets; learning remote; 0.5W standby power consumption; supplied optical cable



### HCC VERDICT



### Cambridge Audio TV5

→ £300 Approx → [www.cambridgeaudio.com](http://www.cambridgeaudio.com)

→ Tel: 020 7940 2200

**HIGHS:** Impressively balanced and well dispersed soundfield; simple operation; decent design and build

**LOWS:** Subtle differences between DSP modes; no user bass/treble tweaks; no HDMI

**Performance** ★★★★★

**Design** ★★★★★

**Features** ★★★★★

**Overall** ★★★★★

**Ed Selley** looks to the land of Gucci, Ferrari and Panerai for his cinema sound needs

# The AV Italian Job

**LET US FOR** a minute consider the thorny issue of 'style' – the indefinable quality of a product beyond the more understandable virtues of performance, build and features. In the UK, much AV gear tends toward form following function, and while this can result in stylish things, it is often a by-product rather than the intention.

British loudspeakers can be handsome, impressive and seriously good value. They are, however, rarely described as stylish or beautiful. The Italians have historically taken a slightly different approach to the design process. While the country's speaker-makers are capable of exceptional engineering, I often feel that beyond raw ability they believe a product must be beautiful, too. This means that if you are looking for a speaker that is more than a musical box, you could do a great deal worse than looking at Sonus faber. The Italian manufacturer has consistently produced models with a visual flair that eludes many competitors, and the Venere range you see here is one of the more affordable avenues into the company's range.

## AV INFO

**PRODUCT:**  
Floorstanding  
cinema speaker set

**POSITIONING:**  
Entry-level for  
full-size speakers in  
Sonus faber's range

**PEERS:**  
Dynaudio Excite;  
Tannoy Precision

## Five alive

The quintet of speakers auditioned comprises a pair of the Venere 2.5 floorstanders (£2,200), a pair of the 1.5 standmounts (£950) and the Venere Center speaker (£550). Sonus faber doesn't make subwoofers, leaving you to decide on a suitable bass solution from a manufacturer that does. For my system, I had the Veneres running in tandem with a Tannoy dual-driver 12in TS2.12.

All of the speakers make use of a 1.1in silk dome tweeter partnered with a midbass







Each Venere 2.5 is supplied with a tempered glass plinth – longer front spikes cause the cabinet to lean back, improving time alignment of the driver array

Silk dome tweeters and 'Curv' technology midbass drivers are used across the range



driver that uses Sonus faber's 'Curv' technology, where the driver is crafted from a thermally-moulded polypropylene material combined with a paper dust cap. This driver is made in 6in and 7in sizes (the latter is used in the two-and-a-half way floorstander for both the mid and bass units) but otherwise the complement across all five speakers is identical.

There are other design aspects that are shared. The most important of these is that all the Veneres are front-ported, employing a distinctive slot that is intended to reduce the amount of audible energy it produces. This is useful in terms of positioning, because the speakers aren't too fussed about being placed close to a rear wall. The Center is happy being placed on a semi-enclosed rack shelf. Given that the Center and the 2.5 in particular are decidedly large speakers (the latter stands over a metre high and over 30cm wide), this means that they can still be used in smaller spaces without completely dominating them.

The Veneres are never going to disappear in your viewing room, however, because the industrial design wasn't created with that in mind. The distinctive profile of the cabinet mimics a lute, says Sonus faber, but also helps with standing wave breakup and cabinet strength. Meanwhile, the distinct rearward lean of the floorstanders and the standmounts once placed on their dedicated stands/ baseplates provides time alignment of the driver assembly, as well as slightly reducing the height of the floorstander.

Construction appears faultless. Everything from the binding posts to the foot for the Center, magnetic speaker grilles and the baseplates are all of high quality, even though the Venere range may use less expensive materials than pricier members of the company's output. Furthermore, the Venere ranks as one of the small number of speakers that I think actually looks quite good in white. A black iteration is also available, as is a rather striking walnut finish for a price premium.

### Beauty that's more than skin-deep

It is unlikely you are going to drop £3,700 on a set of speakers (and save some extra for a subwoofer) because they look elegant. The good news, though, is that the Veneres are more than just a pretty face.

Connected to a NAD Masters Series M17 processor and M27 power amplifier (which I'll be reviewing in our next issue), this Sonus Faber package demonstrates a number of impressive performance attributes.

The first is that the Veneres are extremely self-effacing speakers. With the wide spread of effects in the rain-drenched final race in Formula One drama *Rush* (Blu-ray) there is a tremendous amount of information ranged across the room from front to back. The





Dual binding posts allow bi-wiring/amping

positioning of effects is extremely good, but with these cabinets it doesn't feel directionally linked to any single speaker. Instead, there is a holographic and completely believable soundfield that is devoid of any gaps or breaks. The Veneres have that natty ability of sounding like there is more of them in the room than there actually is.

And this invisible impact is something that they offer at low listening levels as well as high volumes, making them effective and enjoyable as everyday speakers.

'Refinement' is another term that springs to mind. Even with levels up firmly into anti-social territory, the Sonus fabers push forward a sound that is smooth and unfatiguing. They manage to walk the balance between a performance that almost seems relaxed without trading off any detail or high-frequency impact. With the bank-safe-dragging lunacy at the climax of *Fast & Furious Five* (Blu-ray), the Veneres keep everything under control without compromising on the sheer silliness of the action on screen. Indeed, for speakers that are so visually elegant, they pack a hefty punch. Those 7in bass drivers

that flank the front soundstage are rated down to 40Hz and provide a fulsome low-frequency ledge for your subwoofer to grip on to.

This punch is also fairly easy to achieve. Nothing in the specifications of the speakers screams that they are especially sensitive (the Venere 2.5 is rated at 89dB/W, while the Venere 1.5 standmount claims 85dB/W) but in practice I found them easy enough to drive to high levels – admittedly with a rather tasty pre/power combo on the AV rack. They will be revealing enough to show up limitations in your amplification but they certainly won't set out to break it.

Amongst this impressive range of abilities, one appreciable weakness of the Sonus faber package is that, compared to the astonishingly competent 2.5 floorstander, the Center has to make do with merely being pretty good. Movie dialogue is clear and easy to follow but some of the weight and presence that the fronts – and even the fairly compact rear speakers – manage with a degree of effortlessness is not always present with the Center. On the assumption that it was brand-spanking new, I ran it in for a period but it never sounds quite as big a speaker as the sizeable dimensions suggests it should.

The strengths of the Venere 2.5 floorstander, on the other hand, mean that if you need a package to perform in stereo, this is one that is too good to ignore. The same spaciousness that works well with multichannel mixes crafts a stereo soundstage that is simply vast, while accurate and packed with detail, particularly with high-quality recordings. And the same refinement and tonal balance that they demonstrate with multichannel is present here, too – the Venere 2.5 is right at the top of its game at the price point. Being hypercritical, they can suffer from a slightly dominating low-end, but I found most of this could be managed with a thoughtful toeing-in of the cabinets.

### Appealing combination

The multichannel speaker buyer is faced with plenty of choice. High-end sub/sat arrays, lush on-wall systems and style-ignorant THX packages are all options at this price point, and Sonus faber's Veneres are another – a glamorous-looking system that combines hi-fi styling with technical savvy.

This array delivers scale, precision, bass depth and considerable impact and does so without ever sounding ragged or out of breath. While none of the cabinets could ever be described as small, they still manage to sound bigger than you'll at first expect, and the £3,700 ticket gets you a system that will work in almost any room on an aesthetic level, and will treat your disc collection (and music library) with utmost care. Overall, it's an excellent all-rounder ■

### SPECIFICATIONS

#### VENERE 2.5

**DRIVE UNITS:** 1 x 1.1in silk tweeter; 1 x 7in Curv polypropylene bass driver; 1 x 7in Curv polypropylene midbass driver  
**ENCLOSURE:** Front slot-ported  
**FREQUENCY RESPONSE:** 40Hz-25kHz  
**SENSITIVITY:** 89dB/W  
**POWER HANDLING:** 250W  
**DIMENSIONS:** 1,107(h) x 340(w) x 437(d)mm  
**WEIGHT:** 19.45kg

#### VENERE 1.5

**DRIVE UNITS:** 1 x 1.1in silk tweeter; 1 x 6in midbass driver  
**ENCLOSURE:** Front slot-ported  
**FREQUENCY RESPONSE:** 50Hz-25kHz  
**SENSITIVITY:** 85dB/W  
**POWER HANDLING:** 150W  
**DIMENSIONS:** 394(h) x 206(w) x 300(d)mm  
**WEIGHT:** 6kg

#### VENERE CENTER

**DRIVE UNITS:** 1 x 1.1in silk tweeter; 2 x 6in midbass drivers  
**ENCLOSURE:** Front slot-ported  
**FREQUENCY RESPONSE:** 60Hz-25kHz  
**SENSITIVITY:** 89dB/W  
**POWER HANDLING:** 150W  
**DIMENSIONS:** 222(h) x 500(w) x 290(d)mm  
**WEIGHT:** 9.5kg

### HCC VERDICT



#### Sonus faber Venere 5.0

→ £3,700 approx → [www.sonusfaber.com](http://www.sonusfaber.com)  
 → Tel: 020 8971 3909 (UK distributor Absolute Sounds)

**HIGHS:** Exceptionally open, detailed and refined sound; beautifully built and styled  
**LOWS:** Rather big; centre speaker slightly less capable; no Sonus faber sub

**Performance** ★★★★★

**Design** ★★★★★

**Features** ★★★★★

**Overall** ★★★★★



**Steve May** discovers there's a new multiroom system in town – and it wants to play in your home theatre too

# When multiroom and home cinema collide

**THESE DAYS ANYONE** can cast music like a graduate of Hogwarts. With wireless and multiroom hi-fi *du jour*, a simple swipe can throw an entire discography to multiple rooms. It's enough to make spinning a humble CD seem positively prehistoric.

But while a seductively compact, convenient and expandable multiroom hi-fi setup has obvious appeal, until now it's not been clear just what a system can offer patrons of multichannel home cinema. HEOS by Denon seeks to change that. Using it, you quickly get the sense that there's a universe of interweaved functionality up for grabs.

Of course, HEOS can function as a simple mobile-to-speaker wireless hookup too, but it can also be something infinitely more complex that embraces all manner

of home entertainment. Naturally this piques our interest.

The HEOS system has launched with three active speakers, the £250 HEOS 3, £350 HEOS 5 and £500 HEOS 7, along with the £300 HEOS Link pre-amp and £400 HEOS stereo amplifier. Of the former, the HEOS 3 is the entry-level carrot. Like its siblings, it's a well-made piece of kit with a slightly wacky design. Unlike the others, it can be aligned either horizontally or vertically. The HEOS 5 is a relatively small,

but extremely well-balanced mid-range model, while the 48cm-wide HEOS 7 is a thumpingly potent tabletop speaker distinguished by silver trim and a casual disregard for the laws of physics.

## The missing Link

Of the two system boxes, the Link pre-amp is key to integrating the HEOS ecosystem with your existing AV kit. The accompanying HEOS stereo amplifier needs only be paired with conventional (passive) speakers of your choice and source components. While it can be run independently, perhaps in a games room or den, its birthing in the HEOS gene pool means that you can route whatever is playing elsewhere to the amp as well.

The entire system is driven by the HEOS app (currently available for iOS and Android). This is used to connect hardware to your



## AV INFO

**PRODUCT:**  
Multiroom audio system with Link and Amp options

**POSITIONING:**  
HEOS 7 is the current flagship speaker in the range

**PEERS:**  
Sonos;  
Pure Jongo



network – simply link the device to your smartphone by 3.5mm cable (supplied) and follow the Add Device prompts – as well as casting music to whatever speakers/rooms you fancy. It's a well-designed piece of software, and getting used to it won't take you long.

Sharing content between devices is straightforward. Whether you have music on your smartphone, networked on a DLNA NAS or lurking on a laptop, the app will discover it all. Every HEOS device also has a USB input, which can be used to play content locally from a thumbdrive or across the network, and streaming services currently supported by the HEOS ecosystem include Spotify, Pandora and Tunein radio.

### Unspecified power

Denon isn't actually publishing any technical specifications for all its HEOS hardware, much like rival Sonos, so

like-with-like comparisons are tricky. However, I certainly never felt for lack of volume. Indeed, the HEOS 7 wears such heavy boots, the temptation is to see just how much of a kicking it can deliver. Suitable for larger rooms, it's capable of prodigious bass. But this deep end is also tempered by a really rich mid-range.

While I can't vouch for its performance with the *Best of Bach* (because, well, I don't want to), it sounds outrageously good with ballsy soundtrack albums like *A Nightmare On Elm Street 4: The Dream Master*. *Love-Hate*, by satin-looned rockers Angel, may be outrageously overblown but the big HEOS is up to the job. The somewhat more sedate Blondie classic *Rip Her To Shreds* sounds equally satisfying, the HEOS evangelising

Debbie Harry's silky mid-range and Jimmy Destri's beatnik keyboards.

### Multiroom mayhem

The Iron Maiden OST to rocky-documentary *Flight 666* features a similar selection of rock anthems. Pretty soon, I was streaming *Can I Play With Madness* into HEOS zone one (aka my kitchen), *Run to the Hills* in zone two (the living room), and *Fear of the Dark* into zone three (my theatre). The neighbours must have thought I was holding an Eddie fan convention. The system can officially support 32 HEOS-equipped rooms, but I wouldn't be too surprised if it managed more. Thankfully, the synchronicity between units is excellent, so if you want to shunt the same source >

Connect the Link (left) to an AV receiver to integrate your cinema setup into a HEOS system





Denon's HEOS app is easy to operate

to all connected zones, for a real headbanging party, there's no timing echo. You can, incidentally, custom name these zones to suit your own domicile.

Note that the system doesn't support hi-res files – try and stream them and you'll get an unsupported playback error. But it's pretty happy with MP3, AAC, ALAC and 16-bit FLAC.

Intriguingly, the smallscale, defiantly monophonic HEOS 3 can be partnered with a second 3 to form a stereo pair. Of course, to achieve this will set you back more than £500, which isn't much of an incentive. Could you use a pair of HEOS 3s flanking a flatscreen TV? The setup certainly looks

**'I've come to love the grunty audacity of the HEOS 7 and the mellower power of the HEOS 5'**

cool, but in practice it transpires to be a non-starter because there is simply too much lag. Because the audio is buffered by the HEOS speaker, the output is significantly out of sync with the video. Recognising this, Denon is now prepping a HEOS-enabled soundbar (with wireless subwoofer) designed to operate without lag.

The company has teased us that it is also working on a multichannel whole-home audio amplifier that's HEOS-enabled. This will presumably serve up distributed audio to in-wall and in-ceiling speakers, making them HEOS audio zones in the process. Such kit should have instant appeal to the custom install industry.

#### Bring your system to the party

What we don't yet have any word on is a HEOS-enabled AV receiver – although that will almost certainly come later this year.

In the meantime, however, you can integrate an existing AVR using the HEOS Link pre-amp. If you have a post-2010 networked Denon or Marantz receiver you can even use the Link to control the receiver over IP for power, input selection and volume control.

There's also a 12V trigger, for compatible component integration, and an IR control option for non-networked AVRs and stereo amplifiers.

Just like the speakers, the Link features dual-band Wi-Fi, supported by Ethernet. Connectivity includes USB (the port can also function as a charger for USB devices); stereo phono input and output; coaxial and optical digital outputs; and one digital audio input. There's also a subwoofer output for connection to a powered bassmaker. With an AV source connected to the Link, you can play that source in other HEOS rooms when they are grouped. This is pretty cool if you want to have your favourite TV channel relayed to the office or kitchen – there's nothing like listening to the zombie-munching antics of *The Walking Dead* when you want to pop to the kitchen to get a quick bite.

#### Versatile contender

With easy-to-accommodate speakers, versatile Link and Amp units to expand the HEOS ecosystem into your AV listening room or a standalone two-channel system, not to mention the promise of more interoperability to come, HEOS proves to be an exciting new product line for Denon. Like its well-known competitor Sonos, it thinks of multiroom audio as more than just a collection of one-box speakers dotted around the house, and I rate it as a good alternative.

Installation simplicity and ease-of-use are high, and following the latest round of DSP tuning tweaks delivered via firmware, performance is stonking. I've come to love the grunty audacity of the HEOS 7 and the mellower power of the HEOS 5. I'll be keeping an eye on where Denon takes its new audio range next ■

#### SPECIFICATIONS

##### HEOS 7

**DRIVERS:** 2 x tweeters; 2 x midbass drivers; 1 subwoofer; 2 x passive radiators for additional bass augmentation

**POWER:** 5 x Class D amps

**DIMENSIONS:** 203(h) x 479(w) x 164(d)mm

**WEIGHT:** 4.5kg

##### HEOS 5

**DRIVERS:** 2 x tweeters; 2 x midbass drivers; 1 x passive radiator

**POWER:** 4 x Class D amps

**DIMENSIONS:** 209(h) x 294(w) x 166(d)mm

**WEIGHT:** 3kg

##### HEOS 3

**DRIVERS:** 2 x full-range drivers

**POWER:** 2 x Class D amps

**DIMENSIONS:** 130(h) x 272(w) x 165(d)mm (horizontal alignment)

**WEIGHT:** 1.9kg

**HEOS SPEAKER FEATURES:** iOS and Android app controller; Pandora, Spotify, Rhapsody and Tunein support; MP3, WMA, AAC, WAV and FLAC file playback (32kHz, 44.1kHz and 48kHz); bass/treble controls; dual-band Wi-Fi; Ethernet; USB; 3.5mm line-in; headphone output on HEOS 7

#### HCC VERDICT



#### HEOS by Denon

→ From £250 approx → [www.denon.co.uk](http://www.denon.co.uk)

→ Tel: 0289 0279 830

**HIGHS:** Easy to install and expand; exciting audio performance from the HEOS 7 and 5; AV interoperability via the HEOS Link

**LOWS:** HEOS 3 is pretty average and can't be used as a stereo pair with a TV source; not hi-res audio compatible

**Performance** ★★★★★

**Design** ★★★★★

**Features** ★★★★★

**Overall** ★★★★★





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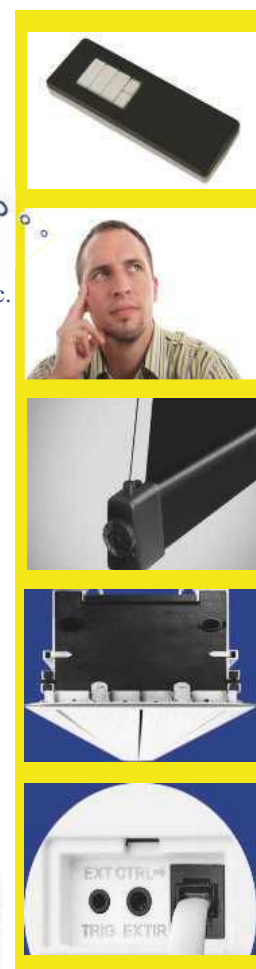
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SETC200WSF-ATR	2030 x 1140	80" x 45"	2625 x 155 x 170	16:9
SETC240WSF-ATR	2340 x 1320	92" x 52"	2935 x 155 x 170	16:9
SETC270WSF-ATR	2670 x 1500	105" x 59"	3245 x 155 x 170	16:9

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#### TURTLE POWER

The heroes in a half-shell are back in action – BD review, p96

# Sharp by name...

... and sharp by nature, thanks to a native 4K/UHD resolution. But is that enough for this 60in flatscreen to impress [John Archer](#)?

#### AV INFO

##### PRODUCT:

Affordable 60in 4K/UHD TV with limited Smart functionality

##### POSITION:

The UD20E is the only 4K range Sharp offers

##### PEERS:

Samsung UE55H7500; Sony KD-55X9005B

TO SAY SHARP'S TV division has been having a torrid time would be an understatement. In fact, having recently licensed its brand to Polish company UMC, the LC-60UD20E under scrutiny here may well be the last 'full' Sharp TV – as in, a TV designed and developed from the ground up by Sharp, and delivered predominantly from Sharp's own production facilities – we get to review.

It gets off to a strong start, thanks to a striking and original design featuring an on-trend skinny black bezel that rests fetchingly on a pair of curved metallic feet at either end of the bottom edge. Seldom has a 60in TV looked so attractive while simultaneously taking up so little room.

The 60UD20E is also on a good footing with its size, picture specifications and price. Its star attraction is its 3,840 x 2,160 4K/UHD pixel count – good to know given Sharp's previous dalliance with a disappointing pseudo 4K technology, Quattron+, that used

extra sub-pixels to deliver a sort of halfway-4K house from a native 1080p panel.

Supporting the 4K pixel count are four HDMI inputs built to the v2.0 standard, meaning they support 4K video streams at 60 frames a second. Unfortunately, though, 4K support here doesn't extend to a built-in HEVC decoder, meaning you can't enjoy Netflix's 4K streams – or very likely those from any other commercial provider.

The 60UD20E also delivers an 800Hz-emulating motion processing engine; active 3D playback with two pairs of glasses included; multimedia playback via USB stick, SD card and DLNA-enabled sources on your home network; a wealth of calibration and picture customisation options; and an integrated Smart TV platform.

This platform, though, turns out to be painfully underdeveloped. The only two video streaming services of note are Netflix and YouTube. You don't even get BBC iPlayer



– a sure sign of Sharp's lack of interest in the UK market. Basically, calling the 60UD20E a Smart TV is like calling a garden shed a detached country residence.

Calibration tools include colour management, gamma management, white balance fine-tuning, and full control over the various noise reduction, dynamic contrast and motion control video processing options.

### Galactic tweaks required

Settling down with *The Boxtrolls* and *Guardians of the Galaxy* on Blu-ray plus my usual UHD demo reel, my first impression of the 60UD20E's pictures was that they weren't very good. Dark scenes, like those where the Boxtrolls are hunted down at night,

**'Sharp's 60UD20E performs well with Full HD Blu-rays – detailed scenes are skilfully upscaled to 4K'**

were beset by obvious backlight clouding issues, images looked noisy and stressy around object edges, and colours looked overblown and lacked finesse.

Fortunately, it proves possible to fix almost all of these issues by judicious tweaking of the 60UD20E's settings. Noise reduction is best turned off with most HD and definitely all UHD content; the Local Contrast setting should be set to its Mid or High option; the Active Contrast feature should be left off so you aren't distracted by brightness 'jumps'; the motion processing should be left off to stop the picture looking noisy and unnatural; and the image's backlight setting should be greatly reduced to combat the backlight clouding.

Having made these changes, the 60UD20E actually looks great with native UHD content. All the gorgeous views and locations of my test material offered glorious detail and sharpness, nuanced and accurate colour tones, and dark scenes that contained impressive colour resolution and fine detail.

Feeding in some 4K World Cup footy coverage also revealed the 60UD20E to be a capable performer with motion even without the iffy processing in play, as the 4K clarity only reduced very marginally as the players charged about the pitch.

With native 4K content still hard to come by as we approach the end of the first quarter of 2015, it's a relief to find the 60UD20E performs well with Full HD Blu-rays. Detailed *Guardians of the Galaxy* sequences like the prison break are upscaled to the screen's 4K resolution with some skill, making them more textured and 'pixel dense' without appearing overtly processed.

The 60UD20E does a good job, post-calibration, of handling colour during the upscaling process. *Guardians'* diverse set of alien skin tones manage to appear natural. Similarly, the almost luminous quality to the climactic scrap at the end of *The Boxtrolls* is well balanced and full of the sort of subtlety that separates 'claymation' from traditional animation. The upscaling also handles the grainy look of some of *Guardians'* darker sequences with aplomb, still giving you a sense of the grain without exaggerating it.

The upscaling is less effective with standard-definition sources. However, the 60UD20E is hardly alone in that regard. Also, why buy a 4K TV if you're going to feed it lots of standard-definition?

A significant problem with the 60UD20E's HD and UHD pictures is that to get the deepest, most even black levels you do need to remove a substantial amount of brightness from proceedings, leaving pictures rather muted and not well-suited to bright rooms. Another distraction is that during fade-to-blacks the screen turns its backlight completely off, and then back on again when a little brightness creeps back in.

### Sub-standard stereoscopy

While this Sharp is a mostly winning TV in 2D mode, the wheels come off with 3D. The night-time shots on the streets of Cheesebridge in *The Boxtrolls* suffer excessively with crosstalk ghosting, making them look out of focus and tiring. During the final fight in the town square, meanwhile, I also found my head aching from the bizarre 3D motion handling, which looks unnatural and makes moving objects almost see-through at times. Colours don't look quite right in 3D either, and as the screen has to be driven harder to keep brightness levels up while you're wearing the shutter glasses, *The Boxtrolls'* dark scenes suffer more with backlight clouding. You might as well treat the 60UD20E as a 2D TV only.

Accompanying the good 2D and shoddy 3D pictures is a broadly effective audio system designed in conjunction with Yamaha. There's a rounded tone to the soundstage that serves *Guardians'* action-packed – and groovy – soundtrack well, delivering decent bass extension, an open and clean mid-range, and lots of treble detail. The only audio issue is that I noticed a few lip-sync errors, especially when watching 3D and the Freeview HD tuner.

Overall, the 2D picture quality and reasonable price are enough to make this TV worth at least considering – and a sad reminder of just what might be missed from the UK TV scene if this really is the last true Sharp TV we see. Its lack of 4K streaming support, insignificant Smart features and poor 3D performance, though, make it a qualified rather than unmitigated recommendation ■

### SPECIFICATIONS

**3D:** Yes. Active  
**4K:** Yes. 3,840 x 2,160  
**TUNER:** Yes. Freeview HD  
**CONNECTIONS:** 4 x HDMI; 1 x component video; 1 x composite video; 1 x RGB Scart; 1 x optical digital audio output; headphone jack; Ethernet port; built-in Wi-Fi; SD card slot; 2 x USB  
**SOUND:** 2 x 10W (+ 15W subwoofer)  
**BRIGHTNESS (CLAIMED):** 400cd/m²  
**CONTRAST RATIO (CLAIMED):** N/A  
**DIMENSIONS (OFF STAND):** 1,361(w) x 781(h) x 69(d)mm  
**WEIGHT (OFF STAND):** 31.5kg  
**FEATURES:** Built-in Wi-Fi; USB, SD card and DLNA multimedia playback; 800Hz motion emulator; two pairs of 3D glasses included; Aquos Net+ Smart TV features including Netflix and YouTube; colour and gamma management; THX 4K certified; Yamaha 'audio engine'; Super High Resolution Image Engine upscaler; Aquos Remote Lite app (Android and iOS); X-Gen panel (8-bit)

### HCC VERDICT



### Sharp LC-60UD20E

→ £2,300 Approx → [www.sharp.co.uk](http://www.sharp.co.uk)

→ Tel: 0800 262958

**HIGHS:** Good 2D picture quality; fair value; decent sound quality; eye-catching styling

**LOWS:** 3D is unwatchable; no 4K Netflix support; very limited Smart TV services; careful setup required

Performance ★★★★★

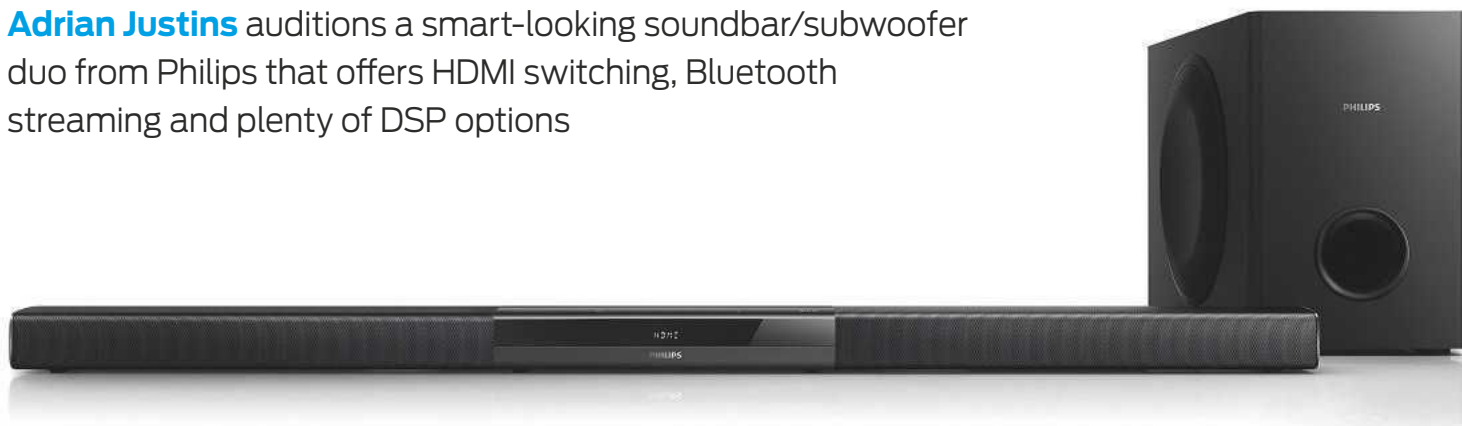
Design ★★★★★

Features ★★★★★

Overall ★★★★★

# Return to slender

**Adrian Justins** auditions a smart-looking soundbar/subwoofer duo from Philips that offers HDMI switching, Bluetooth streaming and plenty of DSP options



**MAYBE PHILIPS BELIEVES** that the best things in life come in threes as its HTL5140 soundbar is supplied in a trio of sections that snap together like an over-sized Airfix kit. More likely, it's simply found a clever way of reducing the volume of packaging required to accommodate a long, thin soundbar and a chunky subwoofer. Either way, the ingenious design works well and the main unit is a doddle to construct, plus it feels perfectly sturdy once assembled.

The HTL5140's soundbar is made from good-quality plastic and has a strong fine-mesh grille covering the drivers. Likewise, the subwoofer, with its 8in grille-covered side-firing driver, feels like a substantial bit of kit.

As the likes of Q Acoustics has shown with its award-winning Media 4, good performance from a soundbar doesn't necessarily require HDMI inputs and Dolby or DTS decoders. But it doesn't hurt to have them, as with HDMI you don't have to route all sources through your TV. Philips' HTL5140 offers both HDMI in and out, with the latter supporting the Audio Return Channel (ARC). So you could hookup a Blu-ray player via the HDMI input and use the ARC line to connect to your flatscreen, drawing down sound from broadcast TV, Sky, games consoles, etc.

If you're feeling brave you can give HDMI CEC free rein over your devices, but at one point I found that after turning the TV off but not the soundbar the latter switched from Dolby Digital to PCM and started a headache-inducing buzz.

The OLED display on the 'bar is easily readable, and shows

the selected input and any mode adjustments in progress. The remote control is excellent, with clearly labelled inputs for HDMI, HDMI ARC, optical, USB, Bluetooth and Aux (3.5mm analogue). There's no subwoofer adjustment as such, just treble and bass, but there is a plethora of DSP modes and a so-called Surround mode. Philips invites you to play.

## Waiting game

One gripe about the HTL5140 is that it's slow to power up from a standing start – I began thinking of popping off to make a cuppa. Another is that the Surround mode does nothing other than confirm my belief that such things are purely put there for marketing purposes. There's such little difference between surround and non-surround with movies that you're hard-pressed to guess which is in use without checking using the display. Switch to music, however, and the surround mode has a more profound effect, improving the stereo imaging. However, with Michael Jackson's *Wanna Be Startin' Something* the HTL5140 starts nothin' worth shouting about. The bass is thuddy and lacks reach, while the higher frequencies feel cramped and lack clarity.

Movies do sound much better than music. The accompanying subwoofer provides plenty of nicely-controlled grunt; during the thunder storm and scene when the apes chase the deer in *Dawn of the Planet of the Apes* (Blu-ray) the meatiness of the low end is keenly felt. Caesar's heavy contemplative breathing is nice and subtle, while the crackle of gun fire later is succinct in the mix. Dialogue is reasonably tight albeit with a hint of brightness. Yet the HTL5140 doesn't like to be driven hard as loud volumes soon become tiring.

Yes, this is a step up from most built-in TV speakers, but the HTL5140 doesn't have the finesse you'd hope for, even at this price ■

## SPECIFICATIONS

**DRIVE UNITS:** 2 x 1in tweeters; 4 x woofers

**AMPLIFICATION:** 100W

**CONNECTIONS:** 1 x optical audio input, 1 x HDMI output (ARC); 1 x HDMI input; 1 x 3.5mm audio input; 1 x USB

**DOLBY TRUEHD/DTS-HD MA:** No

**SEPARATE SUB:** Yes. 8in driver; 220W

**REMOTE CONTROL:** Yes

**DIMENSIONS:** 1,045(w) x 49(h) x 67(d)mm

**WEIGHT:** 1.7kg

**FEATURES:** Treble and bass control, DoubleBass; DTS Digital Surround; Dolby Digital; Bluetooth aptX and AAC; NFC; EasyLink (HDMI-CEC); automatic audio input mapping; Virtual Surround Sound; DSP modes (Warm, Bright, Auto, Personal, Powerful, Balanced, Clear); Night mode; lip-sync adjust; LED dimmer; wall-mountable

## AV INFO

**PRODUCT:** Soundbar/subwoofer combi

**POSITION:** Near the top of Philips' extensive soundbar range

**PEERS:** Q Acoustics Media 4; Humax STA-1200BSW; Sony HT-CT370

## HCC VERDICT

**Philips HTL5140**

→ £300 Approx → [www.philips.co.uk](http://www.philips.co.uk)

→ Tel: 020 79 49 02 41

**HIGHS:** Attractive, sleek design; good socketry; well-designed remote; impressive sub

**LOWS:** Discordant sound; ineffective surround mode; slow powering up; not the loudest

**Performance** ★★★★★

**Design** ★★★★★

**Features** ★★★★★

**Overall** ★★★★★



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# Faster YouView makes time travel fun

Under-the-hood tweaks make the DTR-T2000 Humax's nimblest YouView PVR  
– **Martin Pipe** enjoys the slick experience offered by the hybrid TV platform

## AV INFO

### PRODUCT:

YouView PVR with twin HD tuners and 500GB capacity

### POSITION:

Humax's newest YouView product

### PEERS:

BT YouView+;  
Huawei DN371T  
(YouView);  
Panasonic  
DMR-HWT130EB  
(Freeview)

**BACK IN THE** last century, an electronics magazine I used to work for ran a fantasy inventions competition. One of the winners was a gizmo that would allow a VCR to retrospectively record programmes you didn't know were on, and had therefore missed at the time. This was in the pre-internet days, when digital TV broadcasting was in early development, and it seemed a pretty improbable idea. Now, though, you can get hardware that does a similar thing for less than £200, courtesy of YouView.

Launched in 2012, YouView is a combined digital terrestrial PVR and internet on-demand platform, jointly owned by BT, TalkTalk, the BBC, ITV, Channel 4, Channel 5 and Arqiva. Channel availability is broadly similar to that of the Freeview platform, as are the catchup apps. Current hardware is available from Humax, Huawei, BT and TalkTalk. Sony's 2015 TV range will be adding the service.

### Familiar functionality

As with other PVRs, a YouView one – like the Humax DTR-T2000 tested here – is equipped

with a timeline EPG to browse schedules and set recordings. In the case of the DTR-T2000, you get a 500GB hard drive. And, like most modern PVRs, the DTR-T2000 is equipped with series recording and chasing playback; its two HD tuners, meanwhile, let you simultaneously record two different programmes. So far, so ordinary PVR.

With most other timeshifters, though, you cannot go 'back in time' beyond the programmes currently being transmitted. With YouView, though, you can, by up to a week, via the scroll back guide, which interfaces with the various on-demand catchup services (4oD, iPlayer, etc) and inserts the relevant programmes into the various timeslots. To access one, highlight and select it in the EPG. The player then loads up the selected programme for playback.

In retrospect, this is an obvious idea. But that doesn't detract from its brilliance. Instead of messing around with PCs or Smart devices, you have a portal that gathers together previously broadcast programmes from all main terrestrial channels and delivers





**BBC iPlayer, ITV Player, 4oD and Demand 5 – all present here**

them to where they were intended to be shown – a TV set. As with the catchup websites, some material (e.g. movies) isn't available. However, film fans should note that the DTR-T2000 supports some pay services including Netflix, Sky Store and Now TV.

HD catchup streams are catered for and, if my own experiments are anything to go by, are buffered for 30 seconds or so to provide a frontline safeguard against streaming glitches. The DTR-T2000 provided reliable catchup viewing, even at peak times.

### Connection concerns

Humax's PVR connects to your router via Ethernet rather than Wi-Fi. This can be annoying, but Wi-Fi can be rather iffy in areas where numerous routers can be fighting over a limited slice of radio spectrum.

There's another feature that's conspicuous by its absence – the ability to play multimedia files from USB sticks and DLNA network servers. There is a USB port behind a front-panel flap, but that's for devices like accessible keyboards (YouView has improved the EPG zoom facility for those with impaired senses; subtitles, audio descriptions and digital teletext are, of course, onboard too).

Something that has made it in, though, is a nimbler processor. The DTR-T2000 redresses the criticisms of slowness levelled at earlier YouView hardware. Going through the schedules (past, present and future), making programme searches and working your way through the nicely-designed menu system proves to be responsive. Only occasionally did I manage to overshoot the desired option when driving YouView with the supplied handset.

The zapper isn't the only way of controlling the DTR-T2000; it's compatible with the wonderful YouView app. The box generates an eight-character pairing code – enter this into the free app and you can remotely schedule recordings from anywhere within mobile or

Wi-Fi range. When time comes to view them they're listed under the 'MyView' banner. A handy feature for forgetful types.

Picture quality via HDMI is superb, with a believable colour palette, natural detailing and wide contrast range. Even SD channels look better than expected on my Full HD 40in TV and 6ft projection screen, with artefacts never detracting unduly from the programme material. Interestingly, if you go back in the EPG to view a programme the box will automatically prioritise any HDD recording (up to 1080i) over a catchup stream (up to 720p). That said, on-demand material fares well even though there's a perceptible drop in quality when compared to off-air.

5.1 audio from HD channels is transcoded from AAC to Dolby Digital rather than being passed to an AV receiver in decoded 5.1 PCM form. Despite this, 5.1 material (like a BBC One broadcast of *Indiana Jones and the Temple of Doom*) didn't seem to lose anything in the process. With a decent AV system built around an up-to-the-minute Onkyo AVR and Rogers speakers, slam and subtlety were evident in equal measure.

### Commendable combination

The Humax DTR-T2000 certainly does justice to a worthwhile TV platform, combining useful functionality with a fine AV performance. The design is trendy rather than traditional, with its black/silver livery and centralised control pad (which, admittedly, you'll probably never use), and to sweeten the deal it's not much more expensive than a non-YouView terrestrial HD PVR. Of course, many of those are better equipped when it comes to multimedia playback, and proffer larger storage capacities. But with YouView's focus on net-delivered content, perhaps the days of archiving TV content are on the way out. If 500GB is enough for you, then the DTR-T2000 is a decent proposition ■

### ON THE MENU



→ The DTR-T2000 is swift in operation, and the menu system is largely intuitive and easy on the eye. Recordings to the 500GB HDD are accompanied by thumbnails

### SPECIFICATIONS

**HDD:** Yes. 500GB (for up to 300 hours of SD or 125 hours of HD)

**TUNER:** Yes. Two

**CATCHUP CHANNELS:** BBC iPlayer; ITV Player; 4oD; Demand 5; Milkshake; STV Player; UKTV; S4C; Netflix, Now TV and Sky Store also supported

**CONNECTIONS:** 1 x HDMI output; 1 x RGB Scart; 1 x composite video; 1 x optical audio; 1 x Ethernet; 1 x USB; aerial in/out; stereo analogue audio

**DIMENSIONS:** 360(w) x 50(h) x 245(d)mm

**WEIGHT:** 2.1kg

**FEATURES:** Record up to two programmes simultaneously; chasing playback; Smart scheduling (avoid programme clashes during recording by capturing repeat showings); series record; YouView EPG; auto standby; programme search; remote scheduling apps (iOS and Android); onscreen mini guide; 14-day EPG (seven days behind, seven days ahead); digital teletext

### HCC VERDICT



### Humax DTR-T2000

→ £180 Approx → [www.humaxdigital.com/uk](http://www.humaxdigital.com/uk)  
→ Tel: 0844 669 0677

**HIGHS:** Brings all your TV together; smooth operator with excellent AV; app allows remote scheduling of recordings

**LOWS:** No Wi-Fi hookup; no DLNA/USB multimedia playback; can't archive recordings to external drive; 500GB HDD

**Performance** ★★★★★

**Design** ★★★★★

**Features** ★★★★★

**Overall** ★★★★★

# Ride the wave to quality streaming

Music-on-demand services have made our lives more convenient but rarely focus on quality. Yet newcomer Tidal has aspirations to impress **Ed Selley's** ears

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## AV INFO

**PRODUCT:**  
Premium music-on-demand service

**POSITION:**  
Currently Tidal's only product

**PEERS:**  
Qobuz;  
Deezer Elite;  
Spotify Premium



**AS I WRITE** I'm listening to the second disc of Nine Inch Nail's *And All That Could Have Been* album – an unplugged set of tracks that is quite unlike the normal output of the band. Originally only available with the limited edition version of the album, it is a bit of a pig to get hold of in physical form, but I'm enjoying a CD-quality stream that didn't require me to do anything nefarious. How so? I'm using Tidal, an online music service that hopes to make the argument for quality as well as convenience.

Of course, convenience is the major reason for the explosion in streaming services. Having a vast library of material on demand and ready to go has revolutionised how we access movies, TV and, in particular, music. The tradeoff has been that streamed material is compressed to allow for this to happen. Watch the same film on Netflix and Blu-ray and the extra data of the physical disc pays dividends. So it is with music – while Spotify is perfectly listenable, if you compare it to CD or a lossless download, it can sound thinner and less detailed.

In the simplest possible terms, Tidal is an on-demand music service that allows you to

select by genre, artist, album or track (rather than a stream based on looking at your preferences). The key difference is that the material you listen to (depending on how you access the service, admittedly) should be indistinguishable from a CD copy; convenience is maintained, but with no effect on quality. This is achieved by using lossless rather than lossy compression formats – Tidal streams either FLAC or, for iOS users, Apple's ALAC format.

## Twenty's plenty

Obviously, this makes it a premium proposition, and it's priced accordingly. The cost of a subscription in the UK is £20 per month, which makes it more expensive than most rivals (although the same as its lossless rival Qobuz). It is also considerably more than video streaming services, but there is a caveat about making comparisons to Netflix *et al* – on-demand video services tend to cycle their content. Not everything is there indefinitely. Music services generally retain their libraries permanently and add new content at the time of release, which places heavy demands on storage.

Tidal offers CD-quality streaming, music vids and millions of tracks

Right: The desktop app, mobile app and web player interfaces all major on a monochrome design



That said, it's still galling that those in the UK are asked to pay £20 a month while the fee in the US is \$20 and the EU, €20.

In terms of content, Tidal's 25-million track library is mostly competitive with its rival services. You can browse for hours, but will notice some big-name omissions, including The Beatles, AC/DC, Peter Dinklage, Def Leppard and Metallica. Spotify just nudges ahead of it in this regard.

Beyond its streaming quality talents, Tidal attempts to add value via its artist and album information, which is extensive and usually interesting. Although one annoyance is that unsupported albums are still represented with artwork and track listings, yet flanked by the warning 'Album unavailable for streaming.'

The platform also offers a selection of over 75,000 music videos and a weekly release of playlists. The music videos are offered at 1080p where available, which in reality isn't that often. The playlists range from the superb – the *Blips & Blops* electronica playlists are always worth a listen – to the rather opportunistic – a *Je Suis Charlie* playlist added very little to the events in Paris. But I do like Tidal's commitment to curated content.

Where Tidal still has some work to do is in terms of platform integration. At the moment, you have the option of a downloadable desktop app, a web player (which only offers CD-quality when accessed via Google Chrome) and mobile apps for iOS, Android and Windows. Services like Spotify and Deezer, in particular, have direct platform integration with dozens of brands, and while Tidal has signed up partners at an impressive rate (including Sonos, Linn and Meridian), it is absent from many products.

There is an interesting workaround, though. If you are an Android user, the Bubble UPnP app can now select Tidal as the server and then use a UPnP-capable renderer to replay the signal. The Yamaha RX-A3040 AV receiver I reviewed recently doesn't have native Tidal support but works like a charm when used in this way.

Nor will the overall design be to everyone's taste. The web player interface uses white text on black and grey backgrounds, with this

monochromatic approach only broken up by album/track art and artist profiles. Depending on your point of view, it's either brilliantly stylish or a little bit depressing.

So what does Tidal sound like? As good as your equipment will let it. If that seems underwhelming, I'd invite you to consider that other streaming services, audio and video, are the limiting factor in your system's performance. With the Yamaha running into a pair of Neat Momentum floorstanders, the performance is indistinguishable from a CD sent digitally to it from a BD player. The Steven Price score for *Fury* is powerful and frequently enormous in scale and the Tidal stream of it is rich, detailed and tremendously listenable. When you consider that the CD is over half of your monthly sub, the value calculation starts to look better.

Performance on mobile devices is good, too. Tidal has taken the logical step of allowing phones and tablets to have the option of streaming lossless signals via Wi-Fi and compressed (to an acceptable 320kbps AAC) on mobile and to store albums offline in these mediums. With a halfway decent pair of earphones or headphones, the extra boost in quality of lossless audio is apparent. Having used the app on both iOS and Android devices, I would say that currently Android users get the better end of the deal. The iPad app can be slow and unresponsive and playback via AirPlay is not as reliable as it is proved via aptX Bluetooth from my 'droid phone.

### Viable option

Many people now regard music as a free commodity and don't require the quality they demand elsewhere. Tidal won't appeal to them. But if you use your AV equipment for music as well as film, this service is good enough to operate as a viable alternative to buying CDs or lossless downloads, and with a library that gives your music collection a 25-million track shot in the arm and will hopefully only improve from here. It currently offers a free seven-day trial. My advice: check it out ■

### SPECIFICATIONS

**CLAIMED NUMBER OF TRACKS:** 25 million  
**CLAIMED NUMBER OF VIDEOS:** 75,000 (with 1080p where available)

**STREAMING QUALITY OPTIONS:** FLAC; ALAC; 320kbps/96kbps AAC

**HARDWARE SUPPORT:** Sonos; HEOS by Denon; Linn; Meridian; Electrocompaniet; Squeezebox; Bubble UPnP

**FEATURES:** Weekly playlists; multiple device playback; offline listening; personal playlist creation; Spotify playlist importing; seven-day trial available; Facebook integration



### HCC VERDICT



**Tidal**

→ £20 (per month) → <http://tidalhifi.com/gb>

**HIGHS:** Excellent sound quality; decent supporting info; effective Android app

**LOWS:** More expensive in UK than in EU; Some noticeable gaps in library; platform integration needs to grow

**Performance** ★★★★★

**Design** ★★★★★

**Features** ★★★★★

**Overall** ★★★★★

# Living in Syn

This excellent budget NAS is a suitable first step toward a fully-networked home entertainment setup, enthuses **Martin Pipe**

**THE NAS BOX** has come out of the IT department and into the home of the regular consumer enthusiast. And with good reason, too. Shove a hard-drive on your home network and your connected multimedia devices – among them Smart TVs and Blu-ray players – can pull stored content off it as required. Want access to a centralised pool of your movies, music and photos wherever you are in the house? Then you need a NAS.

Synology is a key player in the global NAS (Network Attached Storage) market. It builds its boxes around a powerful and customisable operating system called DiskStation Manager (DSM). DSM (currently version 5.1) is driven with a friendly and responsive web interface. Its main job is to manage users and maintain performance, but among the more HCC-relevant features are a powerful uPnP media server, remote access (so you can share content privately beyond your home network via the 'net), synchronised backup to a cloud service (like Google Cloud or Dropbox) and a dedicated iTunes server.

## Bargain box

The compact and unobtrusive DS115 is an entry-level Synology proposition – in other words, it's a cheap way of getting all of these enticing goodies in a neat self-contained package. There's only one storage bay (3.5in, up to 6TB) and you have to supply and fit your own drive. No adaptor for 2.5in drives is supplied. A single drive means you don't get the RAID storage possibilities of its pricier stablemates, but this needn't be an issue if your plans



revolve around using the DS115 to serve up data that has been copied from somewhere else (like a PC). In any case, USB 3.0 and SATA ports facilitate backing up the DS115 to external drives.

Having only one drive aids quiet running and energy economy. Indeed, Synology claims the DS115 consumes only 10W in use, dropping to 5W when hibernating.

Inside it lurks a dual-core processor, accompanied by a floating-point unit that speeds up mathematical operations (like generating thumbnails) and 512MB of RAM. Speedy transfer rates of over 100Mb/s (the DS115 connects to your router via Gigabit Ethernet) mean that you shouldn't get streaming glitches.

It's DSM that steals the day. It really will help you to take advantage of all those streaming-enabled products you've accumulated. I was able to simultaneously stream an SD file to one player, and a HD one to another. The only caveat is that, unlike more upmarket models, you don't get video transcoding, so playback of some content can strain older PCs and smartphones. It can, however, convert audio files on-the-fly into the common MP3 format.

Overall, Synology's DS115 – and its DSM 5.1 interface – works very well indeed ■

## SPECIFICATIONS

**HDD:** One 3.5in drive (not included; 2.5in installed with mounting kit). Capacity up to 6TB

**CONNECTIONS:** Gigabit Ethernet; 1 x USB 3.0; 1 x USB 2.0; eSATA

**DIMENSIONS:** 71(w) x 165(h) x 224(d)mm

**WEIGHT:** 0.7kg

**FEATURES:** Synology (DiskStation Manager) operating system with 'package center' support for numerous feature-software plugins (e.g. backup, multimedia, business, security and utilities); VideoStation/AudioStation/PhotoStation (multimedia organiser/players); CloudStation; DownloadStation; DLNA-certified media server; 800MHz dual-core Marvell Armada CPU; 512MB RAM; maximum transfer speeds of 111Mb/s (read) and 104Mb/s (write)

## AV INFO

**PRODUCT:** Affordable fit-your-own NAS

**POSITION:** At the entry level of Synology's large range

**PEERS:** QNAP HS210; WD My Cloud EX 2; Netgear Ready NAS 102

## HCC VERDICT

### Synology DS115

→ £120 approx → [www.synology.com](http://www.synology.com)

→ Tel: 01908 587422

**HIGHS:** Easy to set up; comprehensive feature set; responsive and glitch-free streaming

**LOWS:** No video transcoding; only one drive bay so no RAID provision; no 2.5in mounting hardware supplied

**Performance** ★★★★★

**Design** ★★★★★

**Features** ★★★★★

**Overall** ★★★★★



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# Small is the loudest word for Sond

Finally, a downsized speaker for the smaller screens in your life. **Steve May** listens intently

**SOND AUDIO'S ETBT201Y** (ittybitty?) aspires to bring a smidgeon of sonic clarity to game monitors and smaller bedroom tellies. Just don't expect to be able to park your new widescreen atop it, as this enclosure measures a mere 58.4cm wide by 21.8cm deep. It's available via online retailer [www.ebuyer.com](http://www.ebuyer.com).

Cosmetic design is fine, all curves and soft-touch buttons, while connectivity favours Bluetooth and NFC one-touch convenience. The only hardwire input is a 3.5mm minijack input; there are no digital inputs at all. A non-removable grille hides two forward-firing speaker vents, while a downward woofer adds weight from below.

This gizmo will typically be used as an outboard speaker for smaller screens, fed by the headphone output, while doing double duty as a Bluetooth speaker for mobile devices. It actually makes a rather fulsome noise, even if the soundstage is canal-boat narrow. It certainly provides a little extra sonic



**Sond Audio's smallscale soundbase offers a 3.5mm input, plus NFC-enabled Bluetooth**

whizz to *The Flash*, when used with a twenty-something-inch flatscreen, and comes as a welcome alternative to ugly PC speaker packages. However, while its 30W digital amp is capable of moderate welly, care needs to be taken as the woofer bottoms out quicker than a Brazilian beach party. There's a Bass Boost toggle but this just emphasizes its limited excursion. The ETBT201Y actually fares a little better with compressed sources, which

are typically bass light. An MP3 of *Best of Sparks* streamed with acceptable fidelity.

Consider this novel cheapie a booster for small TVs, games monitors and maybe even tablets. Anything more is probably beyond it ■

**HCC VERDICT**

**Sond Audio ETBT201Y → £70**

**Overall** ★★★★★

DEVOLO DLAN 1200+ WIFI AC → £160 approx

# The (giga)bit generation

Can powerline networking get any faster, wonders **Martin Pipe**?

**THESE THINGS KEEP** smashing speed limits! Not so long ago, powerline network adaptors – handy gadgets that circumvent domestic constraints by piggybacking local area network (LAN) data traffic onto your home's mains wiring – maxed at 200Mbps. Devolo's new dLAN 1200+ WiFi AC 'starter kit' claims to muster 1,200Mbps. That's faster than the Gigabit Ethernet port of your computer or networked product.

Even if you don't get close, due to mains-borne interference, chances are you'll still get speeds that exceed what Wi-Fi can deliver.



The dLAN 1200+ WiFi AC, one of the kit's two units, does, however, boast Wi-Fi access. It would be positioned in a location that's

outside your router's own Wi-Fi coverage. Usefully, simultaneous support for both the standard 2.4GHz and less-crowded 5GHz bands is offered. Even better, two Gigabit Ethernet ports for wired gear are incorporated, too.

The other half of the kit, the dLAN 1200+, connects to your router. Both units are built into large mains plugs (with integrated sockets) for ease of installation. Pressing buttons on both

initiates an encrypted connection between them, and you're away. The default Wi-Fi key is rather long, but can be changed via a webpage or downloadable Cockpit software.

Other goodies include timed Wi-Fi access, parental controls, 'range+' technology, HomePlug backwards-compatibility (for integration with other powerline networking) plus support for WPS and Wi-Fi Move technology. The latter ensures you're always automatically connected to the strongest wireless signal. For me, this well thought-out accessory delivered reliable communication at 800Mbps and was free of streaming glitches, even with HD. Pricey, but recommended ■

**HCC VERDICT**

**Devolo dLAN 1200+ WiFi AC → £160**

**Overall** ★★★★★





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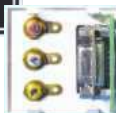


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# DIGITAL COPY

**Mark Craven** is ready and waiting for 4K TV sports, and wonders if a by-product of the UHD revolution might actually be a better deal for regular HD consumers

**THE BEAUTY OF** a home cinema setup is that it can be about more than just watching movies. We can unwind with our music collection and immerse ourselves in HD console games, while the growing budgets/production values of modern TV make many shows ripe for the bigscreen experience. And then there's sport...

For some of us (myself included) sitting down to watch a sporting event with an army of snacks and the volume up high is a key part of the home cinema thang. Particularly around now, when football's various cup competitions have reached their late stages, an entire Summer of cricket is approaching and futuristic-looking F1 race cars are being unveiled.

In the UK, the sports-mad couch potato has long looked towards Sky for his or her Sunday afternoon fix. The impressive growth of the satcaster from the early '90s onwards has been intrinsically linked to its sports coverage. And at the same time, **the beautiful game, and some of the other not-so-beautiful games, have been the platforms that Sky has used to push technologies forward.** The launch of broadcast 3D was driven by stereoscopic football fun, and its sports channels have been showing in HD for as long as I can be bothered to remember.

So, with an eye on 4K, there's been a growing consensus among AV commentators that Sky will use sports broadcasting to usher in a new Ultra HD satellite service. But, as we report on p14, Sky has dampened down some of the chatter about its 4K plans. Immediately, eyes have swivelled to its rival, BT. The telecoms giant, earlier in the year, was forthright about delivering 4K content via superfast broadband, and, as it's just spent nearly a billion quid on re-securing rights to Premier League games, could

it pip Sky to the post and introduce 4K footy to our living rooms? Well, obviously, it could – and I would be first in the queue to sign up. However, excitement as a sports fan about 4K football, whether it's delivered by Sky or BT or anyone else, is countered by my concerns over how much it could cost.

## A change too soon?

It's easy to forget that, in the UK, standard-definition is still king. My Sky EPG has BBC One in SD sitting in the prime spot as channel 101; DVD sales of *Frozen* last year broke all records. The hi-def revolution has been glacially slow, and we're now at a point where many people appreciate what HD is, but just don't seem that bothered about it.

How many TV watchers, therefore, are likely to be desperate to sign up to a pay 4K service? The number won't be in the millions, that's for sure. And, therefore, those that do will be shouldering the cost of putting all this pixel-packed content together. The situation is the same for HD, in fact. BT Sport still charges a premium (£3 per month when I checked) to get its two channels in HD – even if, like me, you're paying more than £40 a month for your BT broadband and phone. Sky, too, levies an extra charge for its Sports and Movies packages in HD.

So I expect any 4K channel to come at a premium, and some people to get snippy about it and not sign up. But wouldn't it be great if the UHD future consigned the notion of regular HD as a 'premium product' to the dustbin? Standard-def is, whatever way you look at it, old hat. In 2015 it should be a long-forgotten technology, and HD should be the standard. Fingers crossed, eh? ■

*Do you watch sports on your home cinema system? Let us know: email letters@homecinemachoice.com*

**Mark Craven** can watch football for hours on end, but stutters to a red-faced, wheezing mess actually playing football after about five minutes





# FILM FANATIC

A brand-new *Alien* sequel has begun gestating in Hollywood. So why isn't lifelong franchise fan **Anton van Beek** feeling happy about the news?

**WHILE IT MAY** be true that in space no one can here you scream, here on Earth everyone can read your tweets. This is why it took precisely 46 seconds for the entire internet to go into meltdown on February 18 after director Neill Blomkamp posted a snap of one of H.R. Giger's *Alien* paintings on his Instagram account accompanied by the sentence: 'Um... So I think it's officially my next film #alien.'

In case you're wondering what all the fuss is about, it started on January 2 when the *District 9* and *Elysium* director took time out from post-production duties on his latest sci-fi flick, *Chappie*, to post nine pieces of *Alien*-inspired art to his Instagram page. The paintings included one of Ripley (Sigourney Weaver's heroine) with explosives strapped around her waist standing next to an acid-scarred Hicks (the character played by Michael Biehn in *Aliens*); an Alien Queen rampaging through some kind of artificial landscape; and a derelict Engineer spacecraft inside a Weyland Yutani facility.

Joining the images were comments such as 'Was working on this. Don't think I am anymore. Love it though. #alien #xenomorph,' and **'Woulda rocked. Was a mental stroll into the world Ridley Scott created.'**

News of Blomkamp's online activity spread quickly, with film fans speculating as to exactly what was going on. Things became clearer a few weeks later when Blomkamp revealed that he'd never actually talked to studio 20th Century Fox about his *Alien* project, but had come up with an idea while talking to Weaver during the making of *Chappie*.

Unsurprisingly, the bigwigs at Fox paid attention to the huge online buzz the story generated. And so a few weeks later Blomkamp posted his 'my next film' message, swiftly followed by an official statement from Fox saying that it had green-lit the

movie. And this was the point at which the internet exploded with joy, as every film geek took to their keyboard to proclaim it the best news ever. Every film fan except me, that is...

## The bitch is back

Okay, so I know I've promoted a fairly curmudgeonly personality in these pages over the years, but this isn't a case of me being a contrarian just to rail against popular opinion (especially as *HCC's* Editor does that job so well). The truth is, while I'm happy to hear that a fifth *Alien* movie is going into production, the only thing the early artwork that Blomkamp published did was to make me very worried.

From the Alien Queen to Hicks, everything about the art screams *Aliens*. And while I have a lot of love for Cameron's sequel, I don't want to see the xenomorph once again being reduced to the status of an easily-killed 'bug'. The same thing crippled *Alien: Resurrection*, which was packed full of interesting ideas, only to ignore them in favour of watching a group of people running around corridors gunning down the titular creatures willy-nilly.

And the presence of Hicks has me concerned that we could be in for a *Dallas*-style 'It was all a dream' approach to the last two sequels. Given my love of the nihilistic *Alien³*, this is something that could kill any remaining enthusiasm I have for the franchise, which is something that even the awful *AVP* films couldn't do completely. I just hope I'm wrong, and that Blomkamp's sketches are only the jumping off point for a terrifying, thrilling horror sci-fi that does the *Alien* series (and its legion of fans) proud ■

*Are you excited about Neill Blomkamp directing Alien 5? Let us know: email letters@homecinemachoice.com*

**Anton van Beek** could hate every idea they come up with for *Alien 5*, but he's such a franchise fanboy that he'll still be first in line the day it hits cinemas





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# PICTURE THIS

Calibrator **Vincent Teoh** sheds light on the performance benefits of dialling down the backlight control on your LED-lit LCD TV

**WITH PLASMA NOW** pushing up the daisies, and OLED still niche, LED/LCD will be the dominant television display technology for the foreseeable future. Among the numerous picture-affecting controls found on LCDs, one of the most important is backlight, which can improve picture quality and enhance your viewing experience tremendously.

Many owners are confused by the backlight, contrast and brightness controls on LCD TVs. To simplify, brightness establishes the black floor, contrast sets the white ceiling, and together they determine the contrast ratio or dynamic range of a display. Backlight, however, shifts the entire contrast ratio spectrum up or down without expanding or compressing the dynamic range significantly. Put another way, while increasing the backlight setting on your LED/LCD TV will boost its light output, this adjustment will also elevate the TV's black level.

Most LED/LCD screens ship with too high a backlight value by default; in a home environment such high light output is seldom needed. Turning down the backlight lessens the risk of eye-strain from watching an overly bright display in a dark room, and allows for deeper blacks.

**Seasoned LCD TV users will be familiar with backlight uniformity issues** such as clouding (uneven, blotchy patches) and corner bleeding (light leakage from the edges). These are usually not visible in a bright room due to the limited simultaneous dynamic range of the human eye, but in a dark room as our pupils dilate such issues become obvious. Lowering the TV's backlight value can minimise clouding and corner bleed, especially in combination with local dimming.

A lower backlight setting also reduces power consumption and, in turn, the heat generated by the TV's internal components. Hotter-running parts can

aggravate screen and backlight uniformity issues down the road – I've seen examples of clouding becoming more noticeable after LCDs warm up for 30 minutes, or the patchy discolouration of plasma's otherwise immaculate uniformity corresponding with where the heat-emitting power supply units are located. The excellent backlight uniformity on Samsung's LED/LCD TVs over the past two years is partly due to locating heat-generating elements away from the centre of the screen.

A benefit of reducing the backlight is improved motion clarity, though this is only applicable to LED/LCDs with backlight modulation synchronised with the panel refresh rate. For example, Panasonic's 2014 4K LED TVs use LCD panels operating at 120Hz, and their engineers have designed the backlight to modulate at 120Hz, resulting in sharper motion but only if the display is not overdriven. An excessively high backlight setting causes the backlight and the panel to go out of sync, thus 'fraying' the motion.

## Subjective adjustment

So how do you go about adjusting the backlight setting on your LED/LCD TV? If you own a light meter, peak white should measure 120cd/m<sup>2</sup> as recommended by the SMPTE for critical viewing in a darkened environment. If you don't have access to pro-grade equipment, a subjective method is to turn backlight all the way down, then slowly increase it until the TV's light output is comfortable enough to watch in the dark without the whites looking too bright, or shadow detail disappearing. A good general rule of thumb is between one-third and half of the TV's maximum backlight value; in a bright room this can be adjusted higher as required ■

*Do you experiment with your TV's settings, or stick to a preset? Let us know: email [letters@homecinemachoice.com](mailto:letters@homecinemachoice.com)*

**Vincent Teoh** has worked as a professional calibrator for seven years and can spot backlight clouding on a TV from across a room. With his eyes shut





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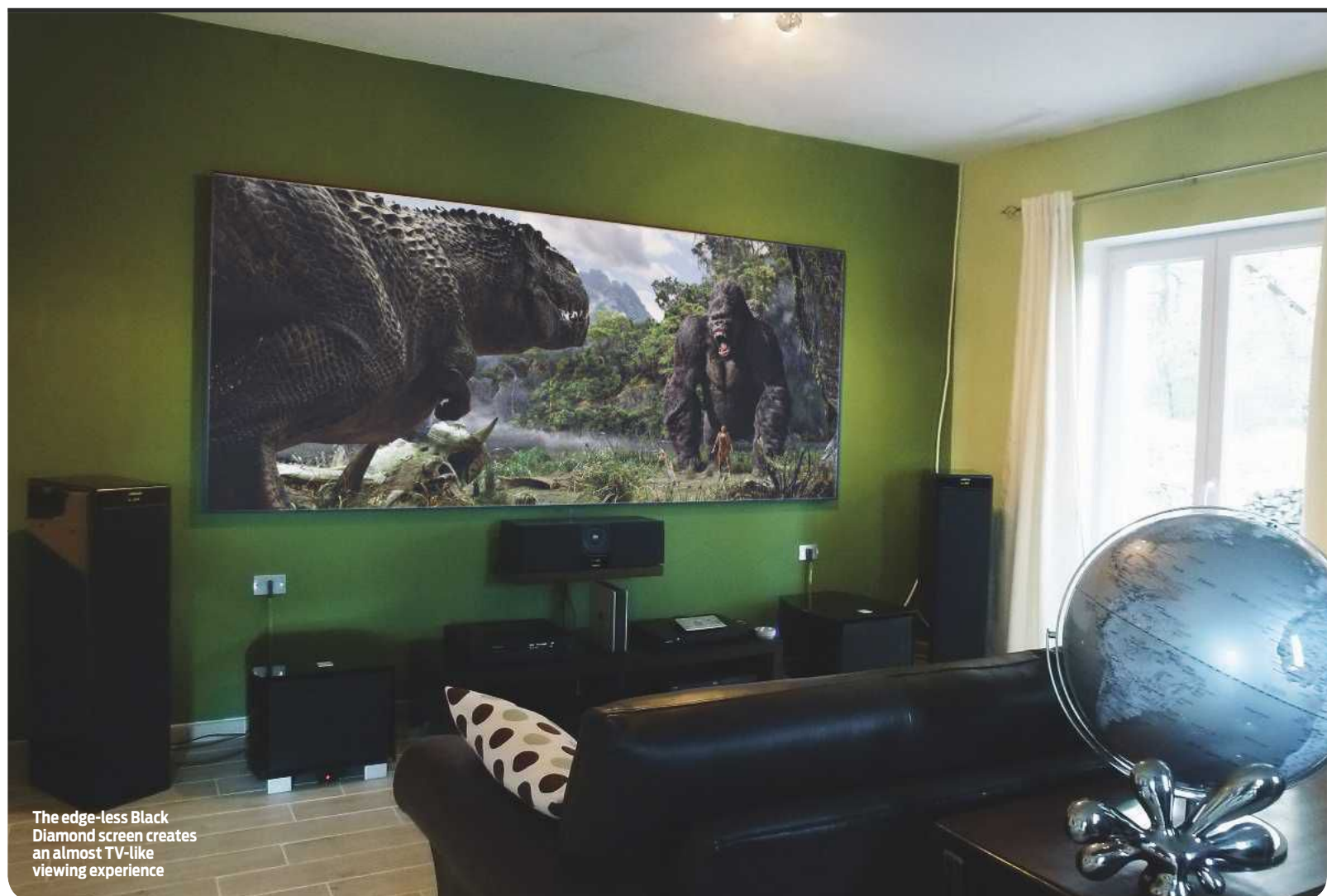


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# Una vista magnifica!

Dual REL subwoofers, Meridian Audio speakers/processing and an eye-catching Zero Edge projector screen – Italy-based reader **Marcus Paisley** throws open the doors to his movie room

## Introduce yourself...

Hi everybody! My name is Marcus Paisley and I'm 51. I work in the financial services industry, and have been lucky enough to be living in central Italy for the past two years.

## How long have you been into home cinema? Do you remember the first AV setup you had?

Compared to many readers I probably haven't been into home cinema that long! I've been into hi-fi since the late 1990s, which is when I bought my first Meridian setup. Having said that I did buy a 33in 4:3 TV back in the day (early 1990s) and at the time that was a big telly!

That was replaced by a 40in Sony Bravia 16:9 model, which cost £1,800 about a decade

ago. We still have it actually – it gets afternoon use if Aisling (my wife) wants to watch a murder-mystery type show, plus we use it for Wii duties.

That was in turn replaced by one of the lovely Philips 21:9 56in TVs with Ambilight in late 2010. At that stage I was running a 3.0 Meridian setup and thanks to the aspect ratio the Philips gave a much larger image for films, which is what we mainly watch. However, it only caused more problems as I was thinking 'If this is good, what will a projector and screen be like?'. We noticed that, all things being equal, we enjoyed watching a film at the cinema more than we did at home so that train of thought was only going to end one way! We sold the Philips TV when we sold up in the UK and headed out to Italy. We bought



the JVC DLA-X70R projector just before we left. As you can tell, our screens have got ever-bigger and ever-wider over time!

### Whereabouts is your cinema room?

It's in the main house, so not a dedicated attic or garage space. Most of the ground floor of the house is open plan so it's simply part of that. It is a dedicated room in that it gets used for nothing other than film and music but it is also open to the rest of the house.

**'I think the system is terrific. Image quality with a good Blu-ray is just staggering. It's even good with DVD'**

Despite the property having a lot of glass (windows, plus three all-glass external doors on the ground floor, of which two are double width), we have almost total light control thanks to external shutters on all windows, plus black-out blinds within the lined curtains on all windows and doors. So it looks like a normal lounge but acts like a dedicated cinema room. Perfect!

### What kit do you currently have in your cinema system?

The video side is handled by Yamaha BD-A1020 Blu-ray player, and the aforementioned JVC DLA-X70R projector. The projection screen is a Screen Innovations Black Diamond Zero

Edge one – 129in, 2.35:1 aspect ratio – that I originally read about in *HCC*; I seem to remember it got a gong in your annual awards [*HCC* Accessory of The Year in 2012, actually!]. It came all the way from the US in a box so the shipping was quite costly! You can imagine the size of the box as it is delivered in one piece, ready to hang. I didn't audition any others. I didn't even audition this one – just read the review, looked into it online and ordered it!

We have an old Sony S350 Blu-ray player to go with the old Bravia set along with the Wii.

Audio is almost all via Meridian hardware. I have a pair of DSP5500 fronts with a DSP5000C centre, a pair of wall-mounted DSP3100s for surround duties, a G61R digital surround processor and an HD621 HDMI box which takes HDMI feeds, splits off the video signal to send it to the projector and sends only the audio to the processor. That's all backed up by a pair of REL Gibraltar 2 subs and a Meridian MC200 500GB hard drive for storing music. Lovely.

The configuration is 5.2 but over the years I've run 2.0, 3.0 and 5.0.

As I said, I've been into Meridian for close to 20 years and just love it. All the speakers are

'active' in that they have built-in amplifiers along with D/A converters, etc. They are fabulously powerful and manage to retain great headroom at high volumes which is just how I like it. The Meridian kit certainly isn't 'plug & play', though, and demands either a good dealer to fit it or a thorough understanding of how to do it yourself. Without the Meridian Unplugged forum (which is a source of endless help and advice) and Meridian Oxford (where Peter gave very generously of his time...) I'd have been all at sea and I can't thank them all enough.

### How do you rate the setup's performance?

I think it's terrific. Image quality with a good Blu-ray is just staggering but it's even good with a decent DVD. We sit pretty close to the screen; two-and-a-half metres away, which is about double the screen height, so at that >



The cinema uses two REL subwoofers



Marcus's Blu-ray and DVD collection certainly catches the eye...

distance it fills a lot of your peripheral vision and is really immersive.

The Black Diamond screen technology is very impressive. It virtually does away with any light scatter so we can have nice white ceilings but they look totally black when a film's playing as the light doesn't get bounced around the room. The screen also has LED back-lighting but we tend not to use that. It also has a lovely minimalist border to it. As Screen Innovations says, you don't need big black borders as in use the screen is practically black itself.

The audio, too, is terrific. As I said, it's magnificent at high volumes as it remains really composed and doesn't harden up or boom at all.

Improvements? Speakers higher up the Meridian ladder would always be an improvement! Mine are all relatively old now and the modern ones would, no doubt, be a big step up. For a small company, Meridian is very innovative, as your article about MQA in a recent issue shows. It has introduced some great new technologies into the latest speakers and processors that the lucky ones on the Meridian Unplugged forum (those that own them!) swear by.

### Why did you opt for two subwoofers?

This is another area that I have to thank the Meridian Unplugged forum for; it would never have occurred to me to buy two subs rather



Kong vs T-Rex: One of Marcus's favourite demo scenes

than one, but someone on there had asked the question ('One great sub or two very good ones?') and a surprising number were suggesting two. I put the question to another specialist dealer that has a presence on the forum (Martins Hi-Fi of Norwich) and they were kind enough to set up a demo over a weekend where they compared one B&W DB1 against two B&W PVI1s and reported that in their room, to their ears, the twin PVI1s gave the

better bass response. It's all room/setup-dependent of course, but I'm very happy with my two G2s.

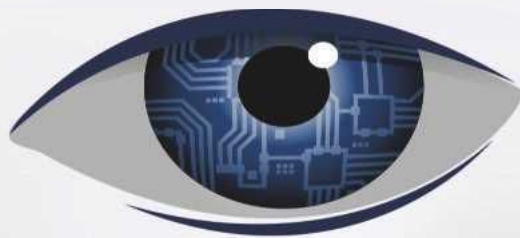
### If you're showing off the system, what discs do you use?

So far I've used *Oblivion*, the T-Rex fight scene from Jackson's *King Kong*, the train crash from *Super 8*, the *Ride of The Valkyries* scene from *Apocalypse Now* and *Battleship*. Every one of

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them is a stunner but there are so many others. Almost any scene from any modern animated film is amazing.

### And what do friends and family think?

Everybody really loves it. I think compared to a regular domestic AV setup, it is an awful lot of audio and an awful lot of video! As my brother's wife, Heidi, said 'I can't believe I'm in someone's living room!'. Another visitor sat down and said 'I can't sit here, I'm too close.' I told them to give it a couple of minutes and then see what they thought. Two minutes later, and she said 'It's perfect!'

### How much have you spent on the room?

If we were to buy it all new, today, it would be about £38,000 but some of the items are several years old and I bought a couple of them second-hand and/or as ex-demonstration models. Actual outlay would be around £25,000, I think.

### What's your favourite Blu-ray?

We don't subscribe to Sky out here so we buy Blu-rays and DVDs for our regular film fix, so we have an ever-expanding collection. It's currently around 600 or so. From a purely AV perspective it's hard to look past the likes of *Oblivion*, *Gravity* or *The Dark Knight*, all of which are great films, too. However, many old films also look stunning on Blu-ray; Disney's *Sleeping Beauty*, *Lawrence Of Arabia* or *Zulu* can stand shoulder to shoulder with any modern film. They're simply staggering.



Overall favourites in terms of film and the AV experience? All of the above, plus Peter Jackson's *King Kong*, *Wall-E*, *Picnic At Hanging Rock*, *Black Hawk Down*, *Alien* and *Aliens*, *Lost In Translation*, the *LotR* trilogy, many Studio Ghibli films, *Spartacus*... I could go on.

### Do you stream any movies?

No we don't. There is Sky out here and we may go down that route as I believe it's possible to opt to watch a film in its original language so that could work for us. I don't think we can get Netflix out here although I could be wrong. Certainly buying discs is quite an expensive way of doing it.

### What's your favourite bit of kit?

Probably the JVC DLA-X70R projector and the



The five-channel active speaker array combines with a JVC DLA-X70R projector for audio-visual excellence

screen. We've had Meridian systems since the 1990s so I'm almost 'used' to them, but the projector and screen are still pretty new and stun me every night.

### What's next on your equipment wishlist?

Another pair of speakers for rear-channel duties would be nice and any upgrades are always welcome, but for now we're very happy with the setup.

### Are you excited by 4K/Ultra HD?

Of course! I saw a demo of Sony's then-new VPL-VW1000ES projector at the Sound & Vision: The Bristol Show a few years ago and that was stunning. It was before we got our JVC. That isn't 4K but is still great. If it could be made even better, who wouldn't be excited? ■

## SHARE YOUR SYSTEM IN THE MAG!

**IF YOU WANT TO BE THE NEXT 'AV-HOLIC' IN HCC**, you'll need to send us some hi-res images of your cinema room. The better-quality image we get, the better your room will look. So follow these simple steps:

1. Go big. Set your camera to take images at the largest possible size, and at the highest resolution. Don't worry about cropping or resizing – we will make them print-ready.
2. Get in focus. Make sure your photos are as sharp and clear as possible. If you have one, use a tripod, or place your camera on a flat, steady surface and take pictures on a delay. The sharper they are, the bigger we can print them.
3. Let some light in. While we tend to watch movies in the dark, our

cinema systems look their best when they are lit. If you can shoot with natural daylight, do so. If your room doesn't get a lot of light (a garage conversion, for instance) then switch on whatever lights are fitted. Avoid using flash wherever possible.

4. Be thorough. Send photos of as much of the room as possible. Images of both the front and back of the room, the kit rack, speakers, seating, disc shelf, movie poster art... The more the merrier.

5. Don't be shy. We'd love a picture of yourself – unless you want to remain anonymous...

6. Show us more. Got pictures of your room before it was a cinema? Or snaps of work being done? We love to see these, too.

Email your selection of images to [letters@homecinemachoice.com](mailto:letters@homecinemachoice.com) with the subject heading 'AV-Holic'. Provide us with some information about your setup and we'll then be back in touch.

## ...And blag an AudioQuest Pearl HDMI cable!

The kind people at cable king AudioQuest are giving away a two-metre Pearl HDMI cable to our AV-holic each month. The Pearl, which retails for £34, uses long-grain copper conductors and a foamed polyethylene insulation for a robust construction. All AudioQuest HDMI cables up to 10 metres meet or exceed the 10.2Gbps maximum data rate for HDMI and are approved High Speed with Ethernet cables.



# Feedback

Got an axe to grind? Need to comment on current technology?  
Want to share your knowledge with our readers? **HCC** is here to help

## Will Atmos discs work for me?

Hi, I don't have an Atmos-enabled AV receiver but it does decode the Dolby TrueHD and DTS-HD Master Audio formats. If I buy a movie on Blu-ray that has an Atmos soundtrack, will my receiver downsample the sound and output a Dolby TrueHD soundtrack?

Gary Marsden, via email

**Mark Craven replies:** You've put it in a nutshell, Gary. Atmos soundtracks are backwards compatible. Put an Atmos-carrying Blu-ray through a non-Atmos AVR and the receiver will simply decode the core 5.1 or

7.1 TrueHD track. Any other solution would have sent BD production companies running to the hills!

## Can I use Atmos speakers for Front Height channels?

Can you comment on the delay setting in my receiver for Dolby Atmos speakers? I am using Dolby Atmos speakers as Height speakers on top of my existing fronts – two Onkyo SKH-410 upfiring on my M&Ks. The Atmos speakers are configured as Height speakers in my Onkyo TX-NR3008 receiver. This AVR doesn't have Dolby Atmos but has Dolby Pro-Logic IIz Height processing).



My question is, when I run Audyssey room calibration, the distance calculated is actually the physical distance to the Dolby Atmos speakers, but should I correct this distance manually? Since these speakers sit atop my

**Onkyo's TX-NR3008 offers Dolby Pro-Logic IIz, but not Atmos**

M&K fronts and are aimed at the ceiling first, should I measure that distance (from speaker to ceiling and then down to my seating

## ★ STAR LETTER...

## I've rediscovered the quality of CDs!

For the last five or six years I have been buying MP3 albums, and more recently been streaming all my music new and old. However, I recently had an epiphany when I hooked up my LG Blu-ray player (with its many apps) to a Marantz CR510 network receiver with its built-in Spotify. As an afterthought I also connected them by optical cable and put on an old *Best of Michael McDonald* CD.

Wow! I was blown away by the quality: rich, warm and picking up all the production missing from streaming and MP3 versions. It was a great example of the problem of convenience over quality; technology seems to have gone backwards and people have become jaded sound-wise.

I will keep streaming for now but may make the expedition to the loft to dig out my many CDs. I now know what the vinyl heads were going on about – perhaps its time for old gits like me to start banging the CD drum. Anyway, where's that *Brothers in Arms* disc?  
David Green, Watford

**Mark Craven replies:** There's nothing like an AV epiphany, David! My own music-listening habits are mixed – throughout the course of

a day I'll move from internet radio to MP3 rips to CDs, perhaps with a few hi-res files thrown in.

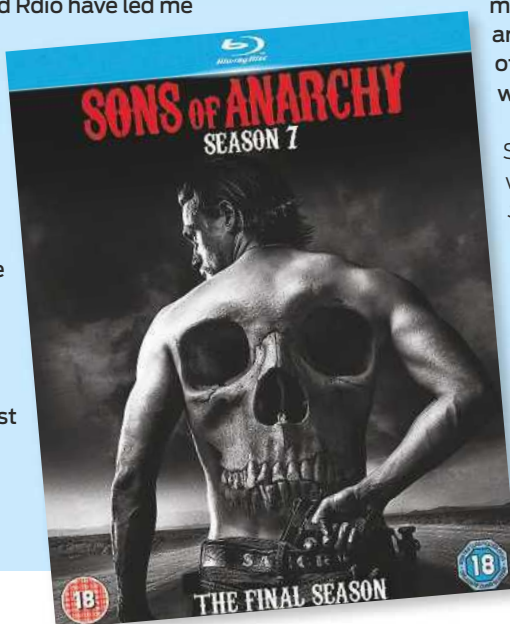
I do sometimes wonder if I am the only person in the UK still buying CDs on a regular basis. But, until I overhaul my in-car system, I'll carry on loving the silver disc. And my dalliances with streaming services like Spotify, Napster and Rdio have led me to discover new artists and spend even more on CDs, which is the business model the labels and artists were always hoping for.

If you've become used to streaming your music but are missing the sound quality of your physical discs, I must point you in the direction of our review of the Tidal streaming service

(see p68). This provides easy, digital access to a library of tracks but at CD quality. Our reviewer, Ed, is rather enamoured with it, and my own experiences are good, too. And I've double-checked and both Dire Straits and Michael McDonald are on offer...

The pricing system – £20 a month – is certainly a limiting factor to Tidal's mass market appeal, but if you are a regular purchaser of digital albums it will work out favourably.

Star letter-writer David wins a Blu-ray copy of *Sons of Anarchy: Season 7 – The Final Season*, courtesy of Twentieth Century Fox Home Entertainment. The critically-acclaimed *Sons of Anarchy: Season 7 – The Final Season* is available to buy now on Blu-ray, DVD and Digital HD.





position) and correct manually to have an accurate calculation and sound?

I did try this and it seems to sound better, with a more open, spacious soundfield, although these Onkyo speakers are no match for my M&Ks, I must say.

And doing the change manually for that Atmos/Height delay setting: will it change the sound or cancel the settings Audyssey did?

Lastly, can this sound any better when I also use the same brand speakers (M&K) for Dolby Height (as I have M&K fronts) and aiming these to the ceiling on top of the fronts, without the Dolby Atmos crossover built-in like the Onkyo SKH-410s have?

Wim Van den Broucke, via email

Richard Stevenson replies:

Hi Wim. We like your thinking about implementing Height channels using Atmos upfiring speakers. That is a neat solution to Height channels without brackets on the wall and the visual carnage of proper Height speakers in place. You are correct that any auto setup measurement will calculate the direct point-to-point distance between the speaker and the mic, so the delay would be incorrect. This can be corrected manually by measuring the 'bounce' distance from the speaker to the listening position via a mid-point on the ceiling.

Manually adjusting the distance won't cancel the Audyssey EQ setting for those channels, but getting the Atmos speakers to work as Heights with Audyssey EQ is not quite that simple. Atmos-licensed speakers like the Onkyo models do not have the traditional 'flat' response curve of standard loudspeakers. They have a response tailored to be bounced off the ceiling to give a greater illusion of the sound coming from overhead, and Atmos soundtracks are suitably tailored to that configuration in an Atmos AVR. This is one reason why, in Atmos-enabled AVRs, it is important to tell the receiver whether you have Atmos upfiring speakers or speakers fitted in the ceiling at the setup stage. The

other reason is that the mic measurement then adds a little bit of a fudge-factor to the distance measurement of upfiring speakers to allow for the additional bounce distance.

If we assume Dolby knows what it is talking about with upfiring speakers, then one can assume the Atmos speaker response curve is best for sound bounced off of the ceiling. So, arguably, it should be best for your 'bounced' Height channels too. Audyssey EQ will endeavour to flatten out that response. If your AVR allows for manual adjustment of the filter on each channel, it would probably be best to simply set all filters to zero for the Height speakers to give the Atmos curve a chance to work its illusionary magic. As ever though, try with and without EQ and go with the one that sounds best.

If you use non-Atmos speakers then you do have the job of balancing them at jaunty angles on your main speakers and there won't be the Atmos response curve. If, as Dolby says, that is the best way to do sound that bounces off of the ceiling, then it may not sound as good as the Atmos Onkyo speakers.

It may be time to look for an Atmos-enabled AVR, grab another pair of Onkyo SKH-410s and go for the full Atmos experience. Or, to invest in

some M&K speakers and mount these to your front wall for authentic Heights.

And, are you really surprised that Onkyo's SKH-410 speakers are outperformed by your M&Ks? The Onks retail for £130 a pair. I imagine your M&Ks are 10 times as expensive.

#### Brit TV is unloved in HD

I was pleased to read some criticism of ITV Studios Home Entertainment in your review of the DVD-only release of *Remember Me*. For years, ITV has been refusing to offer many of its high-profile TV releases in an HD format. This is a great shame as the catalogue concerns many wonderful, gorgeously-shot pieces of television from both the ITV and BBC stables, including *Lewis*, *Vera*, *Endeavour*, *Shetland*, *Lucan*, *Agatha Christie's Marple*, *Breathless*, *Monroe*, *Case Histories*, *Dancing on the Edge* and the superb BBC Two miniseries *White Heat*. All of these were shot on world-class HD cameras such as the Arri Alexa and look glorious when broadcast in HD. The company has also overseen the amazing high-definition restorations of the jewels in its catalogue; *Agatha Christie's Poirot*, *Inspector Morse*, *The Darling Buds of May*, *A Touch of Frost* and *Prime Suspect*. All have been meticulously restored from their original 16mm negatives and a

*Dancing on the Edge*  
— one of a number of  
modern TV shows  
unavailable on UK BD



number of them have been transferred to Blu-ray. The catch: none of them are available in the United Kingdom. All releases have been subcontracted to foreign companies, with many of them region-locked. It is such a shame ITV are depriving the country from seeing them the way they deserve to be seen.

Barnaby Walter, Essex

Anton van Beek replies: TV programmes, both in the UK and the US, are often underserved when it comes to home media releases. You'd think that, with Blu-ray now nearly nine years old, an HD platter for shot-in-HD programming would be a matter of course, especially for big-budget productions like *Dancing on the Edge*. Get a multi-region Blu-ray deck and get importing!

#### Dual sharpness on my TV?

Hi. Within the Expert menu on my LG screen there is the facility to >

#### CONTACT US...

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Please note: we cannot guarantee to print/answer all the letters we receive. Sorry.

adjust vertical sharpness and horizontal sharpness separately. Should one be greater than the other or both the same?

David H-Brown, via email

Vincent Teoh replies: Our advice for your TV is the same we give for all screens regarding sharpness control – set it so that the image is sharp, rather than soft or blurry, but without haloing/ringing artefacts.

Put up a Sharpness or Overscan pattern from a test disc (for example, *Digital Video Essentials*), and then crank both the vertical and horizontal sharpness up until you see white halos beside the black lines that are overlaying a grey background. You can go as close to the TV as possible to make the tweak, or sit at your normal viewing distance. I prefer the former – I'm a purist after the best image possible!

Slowly reduce the TV's sharpness control until the first instance when you can no longer see white halos between the

black line and the grey background. If you reduce the sharpness even further, the TV will start applying a blur filter causing the black line to defocus, so the goal is to make sure that the transition from the black line to the grey background remains sharp without haloing/ringing.

The horizontal sharpness control affects the vertical lines, whereas the vertical sharpness control affects the horizontal lines. On the most recent LG TVs, (2014 models) the neutral state (i.e. no excessive sharpening or blurring) is both horizontal and vertical sharpness at 10.

'H & V sharpness is for fine adjustment of sharpness,' LG tells us. 'A few years ago, some picture experts including Joel Silver of ISF requested us to tune each horizontal or vertical line.'

#### Paying too much for movies

I've been reading your fantastic mag for several years now and felt the need to get something off my chest! I am originally from

Ireland, but now live and work in Australia. It is not a cheap place to live for new releases on Blu-ray. I was shocked to walk into a well-known retailer to have a look at buying the 3D release of *Guardians of the Galaxy*. At \$49.95 – and no 2D Blu-ray and no special features disc – I turned and left in disgust.

I've noticed a steady increase in the cost of BDs in the several years I have been out here, and I now wait a good amount of time for the movies I want to come down in price. However, my question is about the potential cost of Blu-ray 4K. If the format was released tomorrow, it would be north of \$50 out here. As for a 3D version... well, add another \$15 to that. I am also sure in the UK that the cost of the new discs, when they arrive, will be a shock to the system.

Surely, in light of Netflix (which is still unavailable out here) and other providers which will no doubt pop up over the next few years, is there even a need for a new format? I honestly think

physical media that is too expensive will force itself into being a niche market and, as such, will continue to carry an ever-increasing purchase price. This new format needs a price point that makes it competitive.

Do you have any ideas of your own about what a cost could be for a Blu-ray 4K disc?

Jeff, Australia

Mark Craven replies: Fifty Australian dollars, by our reckoning, is around £25, which is steep for a barebones 3D disc.

How much do we reckon 4K Blu-rays will cost? At the moment we haven't a clue, and no one we've spoken to wants to suggest a price. Around £30 is the figure we're imagining, but it could easily be less, or more. And, like you, we'll be hoping for two-for-one deals and retailer discounts when we're building our collections.

As for 3D 4K discs – the BDA hasn't included 4K 3D in the Ultra HD Blu-ray specification... ■

## Win! Three great Blu-rays up for grabs

Just email your answer to [Competitions@homecinemachoice.com](mailto:Competitions@homecinemachoice.com) to be in with a chance



### Annabelle

The terrifying spin-off from the smash-hit supernatural thriller *The Conjuring* is now available to buy on DVD, Blu-ray and Digital HD courtesy of Warner Bros. Home Entertainment.

To celebrate, we've got five copies of the *Annabelle* Blu-ray to give away.

#### Question:

Which of the following is the scientific name for a fear of dolls?

#### Answer:

- A) Arachnophobia B) Pediophobia  
C) Sesquipedalophobia

Email your answer with '*Annabelle*' as the subject heading – and include your postal address!



### Nightcrawler

Jake Gyllenhaal stars in this critically-acclaimed thriller about a thief who starts shooting accident and crime scene news footage. *Nightcrawler* is available to buy now on

DVD and Blu-ray, and thanks to Entertainment One, we've got five Blu-rays up for grabs!

#### Question:

Jake Gyllenhaal shot to fame playing the lead in which cult film?

#### Answer:

- A) Donnie Darko B) The Big Lebowski  
C) Showgirls

Email your answer with '*Nightcrawler*' as the subject heading – and include your postal address!



### Extraterrestrial

Get ready for an 'Extra-Terrifying' encounter with creatures from another world with slick sci-fi horror *Extraterrestrial*. Available on Download now, and

DVD and Blu-ray from March 16, we've teamed up with Signature Entertainment to give away five *Extraterrestrial* Blu-rays...

#### Question:

*Extraterrestrial* actor Michael Ironside also battled angry aliens in which sci-fi hit?

#### Answer:

- A) Alien: Resurrection B) Starship Troopers  
C) Star Wars

Email your answer with '*Extraterrestrial*' as the subject heading – and include your postal address!

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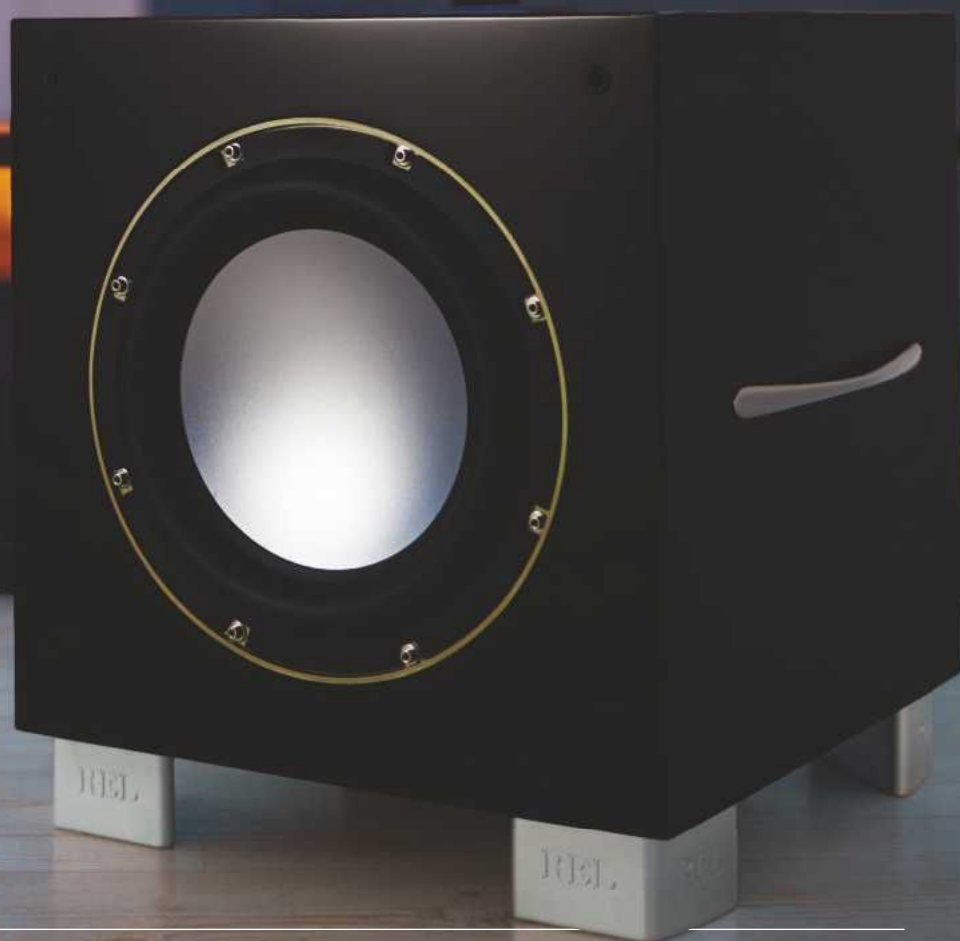
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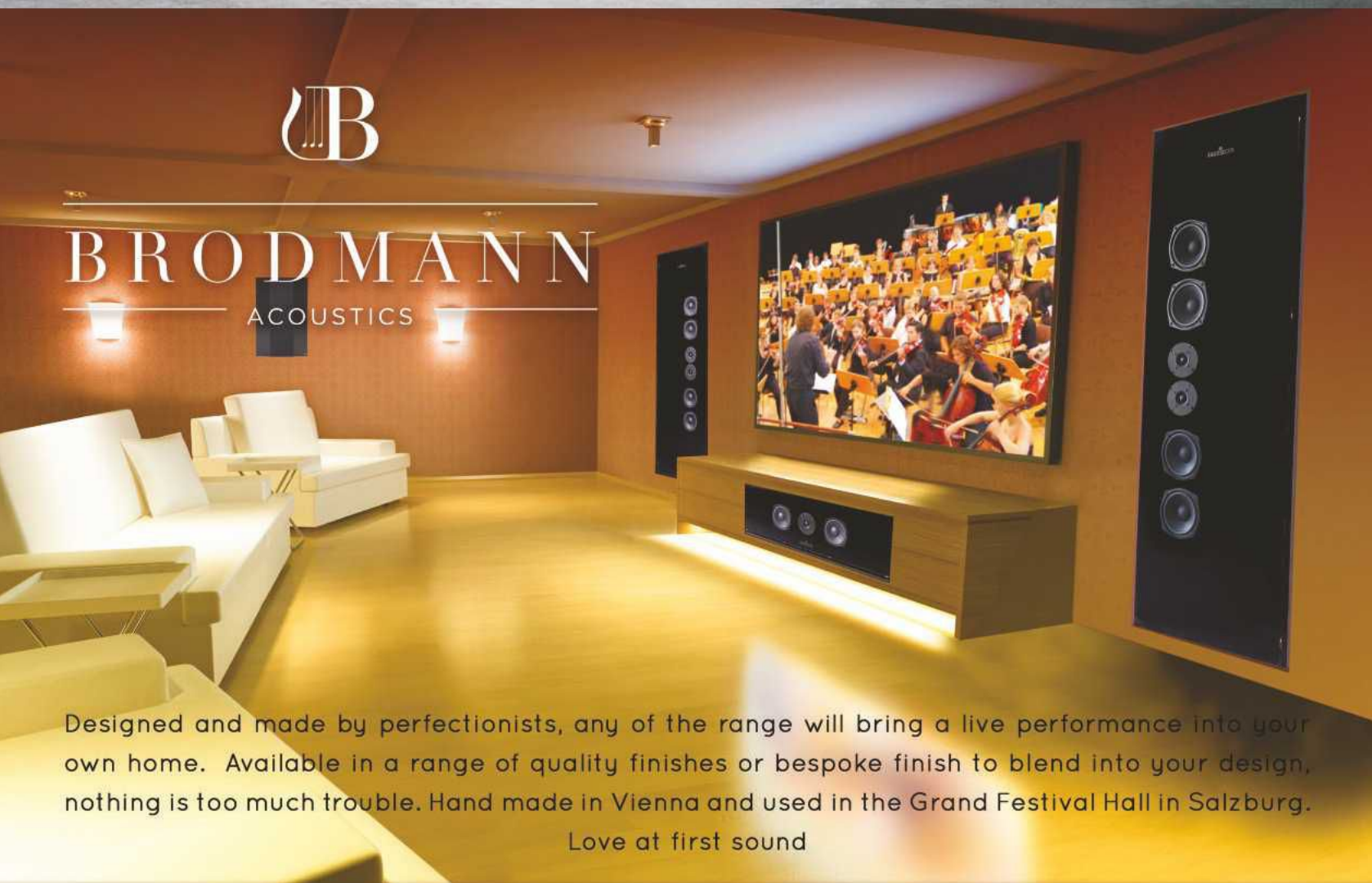
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# PLAYBACK

→ **SOFTWARE HIGHLIGHTS** **NIGHTCRAWLER** Jake Gyllenhaal makes the nightly news **THE HUNGER GAMES: MOCKINGJAY – PART 1** The beginning of the end for Katniss **TEENAGE MUTANT NINJA TURTLES 3D** Rebooting the heroes in a half-shell **THE AVENGERS: SERIES FOUR** Stylish 1960s series looks sin-sational in hi-def **THE BABADOOK** A frighteningly good Blu-ray **AND MUCH MORE!**

## Blockbuster bear

Paddington → StudioCanal → Region B BD

Michael Bond's marmalade-loving bear was one of the biggest stars at the UK box office in 2014. Find out if he's also set to be a home cinema superstar as we get our sticky fingers on the BD on p103...

### HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆



'Put your hand up if you think this outfit is too black...'



# Propaganda war begins here

Third *Hunger Games* instalment relies on character not chaos to keep its legions of fans hooked

## → THE HUNGER GAMES: MOCKINGJAY – PART 1

This penultimate outing for Suzanne Collins' popular dystopian fantasy is a radically different proposition from the action-fests that have gone before.

Stripped of the visceral combat and spectacle that characterized the original and its sequel, this is a grittier, greyer, more overtly political watch that clearly has loftier ambitions. Unfortunately, when the final credits roll, we still aren't entirely sure what those ambitions are. The decision to split the final book into two movies à la the *Harry Potter* and *Twilight* franchises ensures that *...Mockingjay – Part 1* is all build-up and no pay-off.

Still, for those of us who already have invested time in these characters, its uneven pacing is easy to forgive. And once again Jennifer Lawrence takes centre stage, holding her own against a stellar cast of Hollywood heavyweights, including a granite-jawed Julianne Moore and grizzled Philip Seymour Hoffman.

**Picture:** The Blu-ray's image quality is impressive, if intentionally pallid. Framed at 2.35:1, the AVC transfer effortlessly pulls you into the grim world of *Hunger Games*' brooding revolution. There's plenty of fine detail in the 1080p picture, but not so much that the visual effects becoming jarring. Overall, image quality is coherent but not too showy.

**Audio:** Fittingly, *...Mockingjay – Part 1* is the latest platter to join the Dolby Atmos revolution; those without compatible equipment get a thoroughly satisfying Dolby TrueHD 7.1 mix.



### HCC VERDICT

#### The Hunger Games: Mockingjay – Part 1

→ Lionsgate → Region B BD  
→ £25 Approx

**WE SAY:** This well-specified BD will leave franchise fans hungry for more

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★

The 3D audio highlight is the heavy bombing of District 13's underground complex (which runs across the end of Chapter 11 and the start of Chapter 12), which really gives the pimped-up Atmos LFE an opportunity to boom. You'll believe debris is raining down upon you from those height channels.

The disc also has an 11.1 DTS Headphone: X sound option. This works with any pair of headphones and AVR, and is truly remarkable in terms of image placement. Indeed, it's arguably even more immersive than the accompanying Atmos track...

**Extras:** While *...Mockingjay – Part 1* is a touch unsatisfying as a standalone film, this Blu-ray makes amends with a generous assortment of extras.

An audio commentary by director Francis Lawrence and producer Nina Jacobson provides an intense dissection of the movie; it's low on laughs but rich in minutiae. There are also nine deleted scenes (11 minutes) to ponder, a tribute to the late Philip Seymour Hoffman (11 minutes) and a *Songs of Rebellion* featurette (eight minutes), in which Kiwi popstrel Lorde talks about her involvement with the film's soundtrack. We also get the promo video for her song *Yellow Flicker Beat*.

The jewel in the supplemental crown is *The Mockingjay Lives*, an in-depth eight-segment *Making of...* documentary (134 minutes), which contains some genuinely insightful conversation from the creative team behind the franchise. It covers everything from the cast and make-up to visual effects. There's also a sneak peek at the upcoming sequel to fellow 'Young Adult' series *Insurgent*.



## The Boxtrolls

Universal Pictures → All-region BD  
£25 Approx



Laika Entertainment, the creators of *Coraline* and *ParaNorman*, have created another stop-motion animated gem with this Gilliam-esque tale of a cheese-loving town determined to wipe out the (misunderstood) trolls that live beneath its streets. While the story is fairly slight, in typical Laika style it's pulled off with a surfeit of wit and energy. *Boxtrolls* also looks and sounds absolutely spectacular – particularly where the jaw-dropping 3D version is concerned (both stereoscopic and 'flat' presentations are included on the Blu-ray). A generous batch of extras rounds off an impressive hi-def release.



## The Maze Runner

20th Century Fox → Region B BD  
£25 Approx



The *Hunger Games* may be drawing to a close, but the flood of similar teen sci-fi adaptations shows no signs of slowing down any time soon. This one deals with a bunch of chiselled young men trapped in the middle of a deadly maze with no memory of why they're there. Sadly, *The Maze Runner*'s story is merely the preamble to a much more epic adventure that has yet to be told, so it's pretty much redundant as a one-off flick. That said, it does look very striking and boasts an excellent DTS-HD MA 7.1 mix on Blu-ray. The many extras include a 3D animated short by the director.



## The Homesman

EntertainmentOne → Region B BD  
£25 Approx



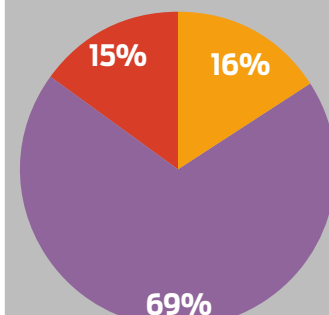
Tommy Lee Jones directs and stars in this intriguingly feminist take on the Western, playing a claim-jumper who ends up in the debt of a bossy spinster (Hilary Swank) and escorts her on the difficult journey east to deliver three insane women to Iowa. Highlighting the hardships of frontier life, the film makes great virtue of its vast empty landscapes, something that doesn't go amiss on Blu-ray thanks to the clarity of the 2.35:1 Full HD imagery and sparseness of the DTS-HD MA 5.1 mix. Meanwhile, the accompanying featurettes offer an in-depth look at the film's production.



## WE ASKED...

Do awards like the Oscars and BAFTAs have any impact on choosing which films you watch?

Yes! No! Only when it comes to telling me which films to avoid!



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# Gyllenhaal's newsworthy neo-noir

Killer media thriller gives audiences one of contemporary cinema's creepiest heroes

## → NIGHTCRAWLER

Inspired by a freelance TV crew he encounters at the scene of a traffic accident, small-time criminal Louis 'Lou' Bloom (a shockingly gaunt Jake Gyllenhaal) decides that his future lies in a new line of work. Equipping himself with a camera and police scanner, and prowling the nocturnal streets of L.A., Lou demonstrates a natural talent when it comes to getting hold of the most sensationalist footage imaginable. But just how far is he willing to go to stay on top of the competition?

As a media satire it's true that *Nightcrawler* doesn't really say anything you won't have heard before when it comes to sticking the knife into modern journalistic ethics ('If it bleeds, it leads' is the mantra in the film's TV newsrooms). However, that shouldn't take anything away from the fascinating character study that writer-director Dan Gilroy crafts.

Rather than taking the easy step of turning Lou into an out-and-out sociopath, Gilroy's film presents him as nothing worse than the embodiment of the American entrepreneur. Admittedly, his methods are unusual and he doesn't exactly stick to the letter of the law, but Lou simply wants to succeed in today's ultra-competitive job market. As Lou himself says: 'Who am I? I'm a hard worker. I set high goals and I've been told that I'm persistent.'

Perhaps the closest point of comparison is Rupert Pupkin in Martin Scorsese's underrated *The King of Comedy* – only here the character is immersed in the sort of pulse-pounding thriller narrative that ensures *Nightcrawler* will have no difficulty finding an appreciative audience.



'That's perfect, now say cheese...'

**Picture:** Packed full of blacks deep enough to lose yourself in and painted with garish neon primaries, *Nightcrawler*'s AVC 2.40:1 1080p encode does a spectacular job of placing you on the night-time streets of Los Angeles. While the bulk of the film was shot at night, colours are brilliantly saturated and details aren't lost amidst the gloom. Indeed, the only technical flaws you'll find are the intentional ones in Lou's home-brewed footage.

**Audio:** The DTS-HD MA 5.1 audio is wonderfully immersive. From the sound of TV news chatter swelling around you at the start of Chapter 5 to the roars of Chapter 14's car chase, the mix makes great use of the surround, while Chapter 9's fast-food joint shootout demonstrates a wide L/C/R spread. A fine accompaniment to the HD visuals.

**Extras:** Just a fascinating chat-track from the director, producer and editor, and a very brief featurette. We wanted more!



## HCC VERDICT

### Nightcrawler

→ EntertainmentOne

→ Region B BD → £25 Approx

**WE SAY:** Ignore the lack of extras and simply savour the superb AV afforded to this modern classic on Blu-ray

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★☆☆☆

Overall ★★★★★





# Hi-def heroes in a half-shell

Impressive AV credentials ensure that this reboot is more cowabunga than cowabungle...



Shredder now has so many blades he's like a walking Swiss Army Knife



The widescreen matte is made tighter in one shot to allow Donatello's bo-staff to break the border for a neat 3D effect



## → **TEENAGE MUTANT NINJA TURTLES 3D**

Before it became synonymous with cartoons and action figures, *Teenage Mutant Ninja Turtles* began life as an independent comic book that set out to parody the most popular superhero comics of the early 1980s.

Adopting a similarly grim 'n' gritty approach, this reboot delivers a mix of brooding heroics, bruising action and toilet humour that should go down a storm with its target audience of young boys. Meanwhile, with a running time of just 100 minutes, it's far less of a chore for adults to sit through than those pesky *Transformers* films.

**Picture:** The set includes 3D and 2D 2.40:1-framed presentations of the film – each on its own hi-def platter. Despite being converted in post-production, the film was always shot with 3D in mind, favouring lengthy shots that provide an ideal showcase for volumetric effects during the most hectic action scenes (a prime example being the showdown with Shredder in Chapter 15). It even finds time to offer some effective negative parallax japes, with bullets and tranquillizer darts shooting out of the screen.

A shame, then, that director Jonathan Liebsman has taken a leaf out of J.J. Abrams' technical book and fills the frame with an abundance of lens flare. As annoying as this might be in 2D (where it serves to wash out colours and obscure detail), it's even more frustrating in 3D thanks to the knack it has for flattening out the image.

**Audio:** ...*Turtles* is Paramount's second Dolby Atmos Blu-ray release. Regardless of whether or not you can listen to the full-fat Atmos incarnation or have to make do with the core TrueHD 7.1 mix, the overall balance is heavily weighted to front centre, ensuring that dialogue is crisp and intelligible even when the action is getting raucous and the LFE channel is spewing forth tight, trouser-flapping bass.

If anything, the mix relies a little too much on the centre channel and you would get pretty much all of the movie even if you had no other channel running. If you have a centre speaker prone to being a bit shouty, it's going to holler with this movie, so you may want to nudge its output down a dB or two.

When it comes to the full Atmos experience, the implementation is considered and subtle. For huge chunks of the film there is pretty much silence from the four overhead speakers other than ambient sounds mixed out of the other channels. These effects are also at a very low level compared to the main channels, making for an overhead effect that is understated to the point of having to check the speakers are actually working. However, switching off Atmos and switching to the core Dolby TrueHD 7.1 mix notably flattens the scale of the soundstage.

And, when it comes to the fight scenes, the sound designer has gone quite, quite mad. Splinter and Shredder's sewer scrap (51.06) isn't all about crash, boom, bang effects – you also get a full mixed male- and female-voiced choir belting out Gregorian chant. It's really subtle in 7.1, but engage





Not a sight you want to greet you when the lift door opens

## DEMO SCREEN...

## Teenage Mutant Ninja Turtles 3D

Time code: 069.09 – 075.30



**The race is on:** Left behind when the truck he was in is hit by an RPG and careens out of control, Leonardo slides down a snowy hill on his shell with three cars full of Foot soldiers in hot pursuit



**Catching air:** With Leo caught up on electrified wires, Donatello jams his bo-staff under one of the cars, sending it flying into the air. Then Michelangelo tackles another on his rocket-powered skateboard...



**Downhill dangers:** Before long, all four Turtles are sliding down the hill. As their truck slides out of control, its trailer swinging back and forth over their heads, the audio mix matches it perfectly



**Collision warning:** With a 500ft cliff rapidly approaching, Raphael takes out the final Foot Humvee, cannon-balling himself into the side of it in a scene of intricately rendered destruction

Atmos processing and it's like having a Welsh choir on your ceiling.

For these effects the Atmos channel levels are right up there with the main array. It adds a massive sense of space to the scene and heightens the emotion of Splinter getting a pasting from an armoured Shredder as our mutant heroes look on helplessly. It's enough to give you goose bumps and a quivery bottom lip – and this from a rat getting beaten up in a sewer and a few emotional turtles. Now that's what we call an effective soundtrack.

Flying turtle? It must be a shell-icopter!



**Extras:** All of the bonus features are relegated to this set's 2D platter and kick off with *Digital Reality* (18 minutes), an in-depth look at the development and realisation of the film's redesigned CG turtles.

Further info about the making of the film can be found in *In Your Face! The Turtles in 3D* (four minutes) and *It Ain't Easy Being Green* (seven minutes). The former looks at the challenges of shooting for 3D (and can itself be watched in either 2D or 3D), while the latter chats with the cast.

*Evolutionary Mash-Up* (15 minutes) is an oddball educational extra that cuts back and forth between a piece on the evolution of turtles and another on the history of ninjas. We can only be thankfully that they didn't include pieces on mutants and teenagers, too.

*Turtle Rock* (six minutes) talks to composer Brian Tyler. The *Shell Shocked* music video (three minutes) and an accompanying *Making of Shell Shocked* video (two minutes) provide more musical fun.

Finally, there's an *Extended Ending* (one minute) that's really little more than one last forgettable gag. >



## HCC VERDICT

**Teenage Mutant Ninja Turtles 3D**  
→ Paramount → All-region BD  
→ £28 Approx

**WE SAY:** This action-packed reboot delivers more than enough AV thrills to keep home cinema fans happy

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

**Overall** ★★★★★





# A Blu-ray chiller with plenty of bite

Restored print and copious extras will leave fans frothing at the mouth in anticipation

## → RABID

After being injured in a motorcycle crash, Rose (Marilyn Chambers) undergoes an experimental surgical procedure that has the unfortunate side effect of endowing her with a vampiric phallus in her armpit. Returning to her home in Montreal, this reluctant predator proceeds to unleash a terrifying plague across the city that transforms its victims into murderous zombies.

David Cronenberg's second feature is at once grander in scale and yet considerably more intimate than his 1975 debut *Shivers*. Like that film, *Rabid* continues the filmmaker's fascination with body horror, mixing together sex and violence in ways that make the two almost inseparable. However the film's real driving force is former adult movie star Marilyn Chambers' performance as Rose, with her unassailable combination of innocence and charisma underlining Cronenberg's modern vampire with a genuine sense of vulnerability.

**Picture:** Shot on a shoestring budget, *Rabid* is never going to look a million dollars. However, taking into account the nature of the source material, long-term fans are sure to be impressed by Arrow's 1.78:1 Full HD presentation.

The print itself has been beautifully restored (at Technicolor in Toronto), resulting in an encode with a newfound clarity and sharpness that reveals a wealth of fine image detail simply not present in earlier DVD transfers. Of more concern to some will be the colour grading, which appears to have been modified (with the director's approval) to give the flick a slightly stronger blue-green tint. However, for



## HCC VERDICT

### Rabid

→ Arrow Video → Region B BD & R2 DVD → £25 Approx

**WE SAY:** Cronenberg's underrated sophomore film finally gets the loves it deserves in this superb hi-def outing

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★

our money this really isn't an issue as it suits the tone of the film perfectly and doesn't have a negative impact on any other aspect of this Blu-ray transfer.

**Audio:** The disc makes do with an LPCM presentation of *Rabid*'s original mono soundtrack. There's really not much to say about it other than to praise its clarity when it comes to dialogue and music, despite some (entirely expected) unevenness when dealing with higher frequencies.

**Extras:** The bundle of goodies includes commentary tracks by David Cronenberg and critic/author William Beard; an LPCM 1.0 'Isolated Music & Effects' track; interviews with Cronenberg, executive producer Ivan Reitman, co-producer Don Carmody and special effects artist Joe Blasco; an hour-long episode of *The Directors* (from 1999) looking at Cronenberg's career; a video essay about Canadian production company Cinepix; the trailer; a photo gallery; and a 44-page book of essays and interviews. Superb.

## Honeymoon

Arrow Films → Region B BD  
£20 Approx



Rose (*Game of Thrones*) Leslie and Harry (*Penny Dreadful*) Treadaway star as newlyweds whose honeymoon at

an isolated cabin goes horribly off the rails in this claustrophobic fright flick. Coming across like an existential mix of *I Married a Monster from Outer Space* and *Invasion of the Body Snatchers*, the film is a subtle yet provocative thriller that serves up a disturbing exploration of relationship anxieties. As for Arrow's Blu-ray platter, while it offers an authentic reproduction of the film's low-budget visuals and 5.1 soundtrack, bonus goodies prove to be thin on the ground.



## Horns

Lionsgate → Region B BD  
£25 Approx



This horror-whodunnit, adapted from a novel by Joe Hill (the son of Stephen King), finds Daniel Radcliffe playing

Ig Perrish, a young man accused of the murder of his girlfriend. Already painted as a devil by his neighbours, things get even weirder when Ig grows a pair of horns that have the power to force those around him to reveal their darkest secrets. While the film is uneven thanks to its wildly shifting tone, this hi-def platter is far more stable, offering up crisply delineated 1080p imagery and energetic lossless 5.1 sonics. A *Making of...* and two interviews are also included.



## Annabelle

Warner Bros. → All-region BD  
£25 Approx



There's no shortage of sudden neighbour-bothering loud noises designed to startle you out of your seat, and

creepy ambient effects, in the five-star DTS-HD MA 5.1 mix that accompanies this hi-def release of the spin-off from 2013's horror hit *The Conjuring*. It's just a shame that as much care wasn't put into the movie's script, which is content to toddle along from cliché to cliché as it relates the origin of the titular devil doll. Video quality is almost on a par with the disc's audio; extras are another story, consisting of four very short *Making of...* featurettes and eight deleted scenes.



## The Nightcomers

Network → Region B BD  
£16 Approx



Michael Winner's 1971 prequel to *The Turn of the Screw* sets out to recount in sordid detail the love affair between

the groundskeeper (Marlon Brando) and governess (Stephanie Beacham) that forms the backstory to Henry James's classic ghost tale. Sadly, beyond the sight of Brando pontificating on love in a thick Irish accent while subjecting Beacham to kinky bondage games, *The Nightcomers* utterly fails to add anything meaningful to James's original novella (*The Innocents* it ain't). On a more positive note, this affordable BD does at least offer an agreeable hi-def presentation.





There's definitely plenty of room for monsters to hide under this bed

DISC OF THE MONTH

# Scaring grown-ups is child's play

One of the best fright flicks in years comes tap-tap-tapping to a home cinema near you

## → THE BABADOOK

Arriving on a wave of critical acclaim, this Australian horror movie is the sort of shot in the arm the genre has been crying out for.

Written and directed by Jennifer Kent, *The Babadook* is an intense psychological thriller following a single mother (Essie Davis) and the six-year-old son (Noah Wiseman) she can't bring herself to love. Their already fractured relationship plumbs new depths when a creepy pop-up book appears in the house, bringing with it... Well that would be telling.

Smart and scary, *The Babadook* plumbs the darkest depths of your imagination for its nerve-frying frights. Truly unique and wholly satisfying – dim the lights and hit Play if you dare.

**Picture:** The movie frequently employs a deliberately muted colour palette with high-contrast lighting that gives it a rather bleached look. Thankfully, Icon's striking 2.40:1 transfer does a fine job of accurately recreating the subsequent combination of inky blacks, glaring whites and subtle shades of colour, with only a few instances of banding visible in strong light sources.

Regardless of how gloomy the film's visuals may look, loss of detail isn't a concern either. Intricate and well-resolved textures are present in close-ups and medium shots, be it the characters' clothing or the hand-drawn sketches in the *Mr. Babadook* book.

**Audio:** While many modern horrors favour sudden audio cues that provide cheap scares on a regular



schedule, *The Babadook* takes a subtler approach to sound design. Yet that's not to say that the DTS-HD MA 5.1 mix is lacking in dynamic range or scale – Noah Wiseman's screaming outbursts result in some truly piercing audio, in particular.

Down at the other end of the sonic spectrum, booming knocks at the front door are loaded with bass, giving them a menacing weight.

Capping it all off is composer Jed Kurzel's creepy yet melodic score. Kept to the periphery of the mix for the bulk of the film's running time, Kurzel's eerie sound sculptures still manage to haunt every frame of the film, instilling you with a distinct sense of unease at all times.

**Extras:** Want to know more about the creation of *The Babadook*? Your first port of call should be *They Call Him Mr. Babadook*, a particularly informative 35-minute *Making of...* documentary.

Supporting this are a four self-explanatory production featurettes – *Special Effects: The Stabbing Scene* (three minutes), *There's No Place Like Home: Creating the House* (10 minutes), *The Stunts* (four minutes) and *Illustrating Evil: Creating the Book* (seven minutes). Be aware, however, that the last of these is an Easter Egg that only appears when all the other extras have been viewed.

Icon's Blu-ray also includes a trio of trailers and a pair of photo galleries – *The Book* (46 images) and *The Poster* (26 images). Best of all, though, is Jennifer Kent's original 2005 short film *Monster* (11 minutes), which she expanded into *The Babadook*.



What we wouldn't give for a replica of the *Mr. Babadook* pop-up book



## HCC VERDICT

### The Babadook

→ Icon Film Distribution

→ Region B BD → £20 Approx

**WE SAY:** There's nothing scary about the way this stunning horror has been treated on Blu-ray

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★



'I swear that's the last time I'll ever laugh at your collection of toy trains, Steed'



# The best of British on Blu-ray

Forget Captain America and Thor, when it comes to Avengers, Steed and Peel are the real deal

## → THE AVENGERS: THE COMPLETE SERIES FOUR



Following three years of reality-based adventures in espionage, popular British spy series *The Avengers* underwent a dramatic change in 1965. Thanks to an injection of cash from US broadcaster ABC, the show made the jump to film – and in the process set about transforming itself into a comic book romp that fully embraced British eccentricity.



However, the most important change of all was the arrival of Steed (Patrick Macnee)'s latest partner, Emma Peel (Diana Rigg). While the show had never shied away from strong female characters in the past, Rigg's portrayal of Mrs. Peel was smart, self-assured and sexy in a way that hadn't been seen on TV before. And her interplay with Steed ensures that even the dullest episode (of which there are very few in this collection) still sparkles with wit and *joie de vivre*.

**Picture:** As the first series of the show to be shot on 35mm film rather than video, this fourth series of *The Avengers* makes a strong impression on Blu-ray.

While there are imperfections to be found (from small scratches and flecks of dirt to drops in clarity that would appear to indicate the use of alternate surviving source material for specific shots), the overall quality of the 26 black-and-white 1.37:1 1080p

encodes is pretty outstanding. Contrast is stable, black levels are consistent and detailing is high, showing every skin texture and costume stitch.

All told, it's hard to imagine the show looking much better than it does here – great news for fans looking to get reacquainted with Mrs. Peel in her scandalous 'Queen of Sin' outfit...

**Audio:** StudioCanal presents all the episodes with LPCM dual-mono audio on this Blu-ray release. The dynamic range in the original recordings is fairly

narrow compared to what we've come to expect from today's gogglebox entertainment, but it never has a detrimental effect on the show's dialogue or music.

**Extras:** There are no new bonus goodies here, but the surfeit of pre-existing DVD extras means that there's still plenty to check out.

Highlights include five episode commentaries featuring series devotee Jaz Wiseman and various members of the show's crew; an interview with actress Elizabeth Shepherd (the original Emma Peel); test footage from a 1980 attempt to 'colourise' the black-and-white episodes; reconstructions of two lost Series One episodes (*Kill the King* and *Dead of Winter*); the fantastic promo short *The Case of the Missing Corpse*; and even the full episode of *Armchair Theatre* (*The Hothouse*) that led to Rigg being targeted by *The Avengers*' producers.



### HCC VERDICT

#### The Avengers: The Complete Series Four

→ StudioCanal → Region B BD  
→ £75 Approx

**WE SAY:** An impressive (if pricey) Blu-ray debut for the cult TV series

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★



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## The Imitation Game

StudioCanal → Region B BD  
£23 Approx



Thank heavens for Benedict Cumberbatch and Keira Knightley, for without them this utterly formulaic and

conventional biopic for the 'father of the modern computer' would be a far less engaging example of British 'heritage' cinema. The film's warm and comforting colour palette is handled expertly by the Blu-ray's AVC 2.40:1 Full HD encode, with only some infrequent banding in subtle shades holding it back from perfection. Likewise, the disc's DTS-HD MA 5.1 does all that's asked of it – even if it's never really pushed too hard. Modest extras take the form of three *Making of...* featurettes.



## Mr. Turner

EntertainmentOne → Region B BD  
£25 Approx



No simple hagiography, Mike Leigh's biopic of celebrated romantic artist J.W.M. Turner is an examination of

British society through the prisms of art and class. As with much of the Leigh's other works, *Mr. Turner's* sprawling form and eccentric approach to storytelling ensures that it won't be to all tastes, but those who take a chance on this Blu-ray release will find much to admire, not least the way the disc's pristine 2.35:1-framed 1080p encode handles the gorgeous visuals conjured up by cinematographer Dick Pope. The sole extra is a 31-minute *Making of...* documentary.



## Enemy

Curzon Film World → All-region BD  
£25 Approx



This month's second Jake Gyllenhaal film is a more challenging but no less enjoyable work than *Nightcrawler*.

Coming across like a mash-up of Davids Lynch and Cronenberg, *Enemy* finds unsettling new ways to riff on the notion of a doppelgänger, and that the resulting tale ultimately asks more questions than it answers only makes it more fascinating. Shot digitally and graded in varying shades of yellow, the hi-def encode looks rather flat, but still boasts excellent clarity. The 5.1 mix also impresses with its creepy ambience, while the bonus interviews are lengthy and informative.



## Life Itself

Dogwoof → R2 DVD  
£16 Approx



Regardless of your familiarity (or lack thereof) with the US film critic Roger Ebert, it's difficult not to be

moved by this documentary about his life and work. While there's plenty to savour in the archival material on offer (not least his prickly relationship with *At the Movies* TV show co-host Gene Siskel), the film is at its most impactful with new material shot during the last four months of Ebert's life, during what would be his final battle with cancer. In addition to a crisp anamorphic 1.66:1 transfer and agreeable DD5.1 soundtrack, this DVD includes 16 additional scenes and a pair of trailers.



# Whimsical wonder with real heart

Ursine superstar dazzles on Blu-ray despite arriving on a rather 'bear-bones' disc

## → PADDINGTON

When his home in darkest Peru is destroyed, a young bear is packed off by his aunt to London. Discovered on a platform at Paddington Station by the typically middle-class Brown family, he is given the name of Paddington and taken back to their home until they can find somewhere for him to live. Chaos ensues...

Expectations weren't high at HCC when news broke that Michael Bond's series of children's books were to be adapted for the silver screen. So we're thrilled to report that (a couple of instances of toilet humour aside) *Paddington Bear's* cinematic debut is an absolute triumph.

Directed by *The Mighty Boosh* helmer Paul King, *Paddington* is the closest British cinema has got to the meticulously created worlds made famous by the likes of Wes Anderson (*Fantastic Mr Fox*, *The Grand Budapest Hotel*). Only here the surfeit of style is married to a witty exploration of the immigrant experience; albeit a gloriously silly tale of tolerance that finds time to ride a bathtub down a staircase and chase a thief using a skateboard attached to a kite.

**Picture:** *Paddington's* AVC 2.40:1 1080p transfer is one of StudioCanal's strongest video presentations to date. Detailing is absolutely exquisite (particularly in the numerous close-ups of the film's CG lead), blacks are rock-solid and there's an authentic crispness to the image – all of which work together to give it a stonking sense of depth.

Most striking of all, though, is the way that the encode handles the film's richly-saturated colours. Sequences such as the interior of Gruber's Antiques (Chapter 5) are dominated by vibrant reds and



yellows – but unlike some of StudioCanal's earlier high-profile releases, there's no trace of colour banding to be seen. A delight from start to finish.

**Audio:** Given some of its ursine star's outrageous onscreen antics, the film's DTS-HD Master Audio 5.1 mix isn't as dynamic as we'd hoped.

Sure, there's plenty of scale and movement across the front of the mix as a flood of water rushes down the stairs in the Brown's house (Chapter 3). Nor is there any shortage in thumping low-end effects when Paddington's tree house comes crashing down (Chapter 1). But rarely does any of the Foley work wrap around into the rear speakers, which are instead given to prioritising music to the point of excluding pretty much anything else.

**Extras:** In a word: awful. All the platter can muster are a trio of forgettable promo featurettes (the longest running just over three minutes) and a gallery of stills and poster art.



Gentle-bears prefer blondes too!



## HCC VERDICT

### Paddington

→ StudioCanal → Region B BD  
→ £23 Approx

**WE SAY:** While *Paddington* looks and sounds the part on Blu-ray, the lack of extras leaves us fur-ious

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★☆☆☆

Overall ★★★★★



# Two classics for the price of one

Hi-def celebration of Kubrick's early films should make a killing with movie buffs

## → THE KILLING

While his earlier *Fear and Desire* and *Killer's Kiss* both contain flashes of brilliance, it was Stanley Kubrick's third feature that saw him mature as a filmmaker. A tense thriller, *The Killing* tells the story of a group of thieves who come together with the perfect plan to rob millions from a race track, only for human foibles to bring things crashing down around them.

While the plotting here is as intricate as we came to expect from Kubrick's later movies, what's even more interesting is the demonstration of his talents as a visual storyteller – *The Killing* is as eye-catching and stylish a piece of cinema as *2001...* or *The Shining*. Something that this Blu-ray release has no difficulty reinforcing...

**Picture:** Sourced from the same 2K master created by The Criterion Collection for its 2011 US Blu-ray, Arrow's hi-def release of *The Killing* is pure old school eye-candy. The black-and-white 1.66:1-framed 1080p encode showcases plenty of shadow detail thanks to crisp delineation, while contrast remains stable.

**Audio:** *The Killing*'s LPCM mono soundtrack does what you'd expect for a film of this vintage. There is some light background hiss, but it doesn't particularly detract from the other aspects of the Blu-ray's audio, such as the clarity of the dialogue and the intensity of Gerald Fried's sinister score.

**Extras:** Chief among the Blu-ray's bonus features is the inclusion of a 1080p presentation of Kubrick's second feature *Killer's Kiss*. Another film noir, this



67-minute thriller revolves around a washed-up boxer who falls in love with a nightclub singer. Using an HD master supplied by MGM, the 1.33:1 image quality isn't up

to that of *The Killing*, but looks decent on your bigscreen. Audio for *Killer's Kiss* is presented as LPCM mono.

Other extras take the form of optional 'Isolated Music & Effects' tracks (LPCM 1.0) for both films; a video essay about Kubrick's evolution as a filmmaker; an interview with Sterling Hayden from a 1970 French TV show; an appreciation of Kubrick's films by Ben 'Sightseers' Wheatley; trailers for both films; and a 40-page booklet containing three essays about the films and archival reviews.

## HCC VERDICT

### The Killing

→ Arrow Academy → Region B BD  
→ £25 Approx

**WE SAY:** Two restored Stanley Kubrick films for the price of one, plus plenty of bonus features. What's not to love?

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★

## Giovanni's Island

Anime Ltd. → Region B BD  
£25 Approx



A companion piece of sorts to Studio Ghibli's harrowing 1988 animated anti-war film *Grave of the Fireflies*, the equally moving *Giovanni's Island* tells the story of two young brothers growing

up on an island under Russian occupation after World War II. As with Studio Ghibli's earlier film, *Giovanni's Island* excels at contrasting childhood innocence with the horrors of war in a way that a live-action film would find difficult to match. Providing you can see clearly through the inevitable tears, you'll find plenty to admire in this BD's pin-sharp and beautifully saturated AVC 1.78:1 1080p presentation.



## Toy Soldiers

101 Films → Region B BD  
£16 Approx



When South American terrorists take control of an exclusive prep school, it's up to a group of rebellious

students to save the day. Dumb, but fun, this early '90s action thriller is most notable these days for its attempts to transform Sean 'Samwise Gamgee' Astin into a teen heart-throb and for still being much more enjoyable (and slightly less far-fetched) than the last couple of *Die Hard* sequels. While this hi-def platter is devoid of extras, it earns marks for its good-looking 1.85:1 1080p encode and reasonably boisterous DTS-HD MA 2.0 stereo soundmix.



## Wild River

Eureka! Masters of Cinema  
Region B BD & R2 DVD → £25 Approx



Elia Kazan's turbulent 1960 melodrama pits progress against tradition as an idealistic government employee

(Montgomery Clift) attempts to evict a strong-willed Tennessee matriarch (Jo Van Fleet) and her family before her land is flooded by a new dam. Sympathetic to both sides of the argument, it's a smart and evocative movie powered by excellent performances and stunning Cinemascope imagery – the latter handled with aplomb by this superb Blu-ray presentation. Also on offer are an insightful audio commentary and a new essay about the film.





# Samsung UHD TV Curved

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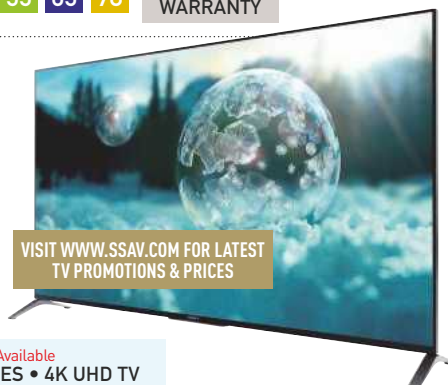
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The new Sony X8 series 4K UHD LED TV boasts four times more detail than Full HD, 4K gives stunningly natural images, not pixels. Dramatically higher image quality means that you can sit closer to the screen, filling more of your field of view until the screen disappears and you are enjoying an at-the-movies experience.

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### S90 SERIES • CURVED 4K UHD TV

The new S90 is Sony's first ever range of curved TVs. Available in two screen sizes: 65in and 75in, the S90 series boasts 4K Ultra HD resolution. Features and specifications include Sony's 4K X-Reality PRO picture engine, Triluminos colour technology, Motionflow XR800Hz, edge-lit LED backlighting, active 3D and a detachable Skype camera.

Sound is provided by Sony's new 4.2-channel multi-angle live speaker system which allows for "expansive, uncompromised 360-degree surround sound". Other features include Sony's Social Viewing for watching with friends over Skype, Live Football Mode, One-touch mirroring and Photo share.

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### SONY • W7 SERIES • FULL HD TV

The new Sony W7 Full HD LED TV series boasts pin sharp films and programmes all wrapped in clean Sony design. Full HD 1080p renders everything in stunning detail and with Motionflow technology even fast-moving action like games and sports flow across the screen. Sony's smart new remote also features a touchpad for seamless flicking through channels.

32 42 FREE 5 YEAR WARRANTY



NEW

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### PANASONIC • AX902 SERIES • 4K UHD TV

The new Panasonic AX902 4K LED TV series combines excellent 4K picture quality with versatile networking features and innovative functions in a stylish design. Includes Freetime built-in, so you can get the advantages of roll back TV (for the past seven days) and easy access to all major catch-up services directly from the Freetime programme guide.

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NEW

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4K

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£5849 OR LESS

### SONY • VPL-VW300ES • 4K SXRD PROJECTOR

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Also Available: NAD T 567



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#### MARANTZ • UD7007 • UNIVERSAL DISC PLAYER

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#### PANASONIC • DMP-BDT700 • 3D BLU-RAY PLAYER

New top of the range model boasting up to 4K 60p output, HDMI 2.0 support, 7.1-channel analogue audio output, along with ground-breaking 4K Direct Chroma up-scaling.

Also Available: PANASONIC DMP-BDT260 & DMP-BDT460



**NEW** £1299 OR LESS

#### PIONEER • BDP-LX88 • 3D BLU-RAY PLAYER

New universal disc player compatible with SACD and DVD-Audio discs plus lossless high-res support up to 192 kHz/24 bit resolution.

Also Available: PIONEER BDP-LX58



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#### SONY • BDP-S7200 • 3D BLU-RAY PLAYER

The Sony BDP-S7200 3D Blu-ray Player with 4K upscaling and powerful smart features - it will be the centre piece of your home entertainment system.

Also Available: SONY BDP-S5200 & BDP-S6200



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#### YAMAHA • BD-A1040 • 3D BLU-RAY PLAYER

Universal player with top-class audio performance, Miracast™ compatibility and advanced network functions such as WiFi built in and Bluetooth® built in.

Also Available: YAMAHA BD-S677



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#### ARCAM • FMJ AVR750 • AV RECEIVER

7.1-channel AV receiver combines 4K "Ultra HD" upscaling and 3D video capability with Arcam's legendary sound quality.

Also Available: ARCAM FMJ AVR380 & AVR450



£999 OR LESS

#### NAD • T 758 • AV RECEIVER

AV receiver featuring NAD's Modular Design Construction for future upgrades along with exceptional sound quality.

Also Available: NAD T 748V2 & T 787



£799 OR LESS

DOLBY ATMOS

#### ONKYO • TX-NR838 • AV RECEIVER

New 7.2-channel Network receiver supporting Dolby Atmos® upgradability, multidimensional sound plus Ultra HD streaming.

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#### PIONEER • SC-LX58 • AV RECEIVER

New 9.2-channel Network receiver with with Class D Amplification, Wi-Fi, AirPlay, DLNA, Bluetooth and Dolby Atmos® upgradability.

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#### SONY • STR-DN1050 • AV RECEIVER

7.1-channel AV receiver with Bluetooth and NFC compatibility, for instant wireless playback from any compatible device.

Also Available: SONY BDV-N5200 5.1 BLU-RAY SYSTEM



£1999 OR LESS

DOLBY ATMOS

#### YAMAHA • RX-A3040 • AV RECEIVER

New AV receiver with built-in Wi-Fi, 11.2 channel expandability, highest grade construction and Dolby Atmos® upgradability.

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#### REL • S2 SUBWOOFER

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#### ARCAM • SOLO BAR • SOUNDBAR

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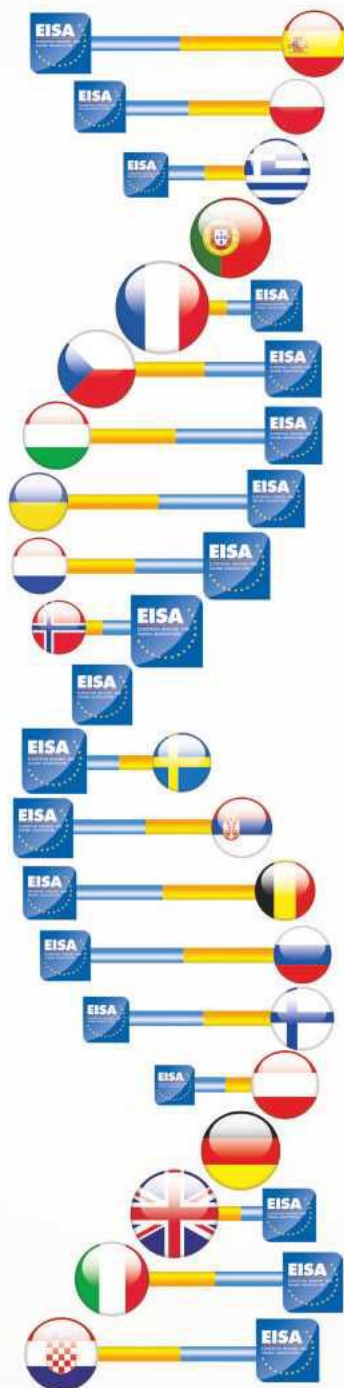
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# SELECT

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**BLU-RAY PLAYERS** Which deck rules the roost? **PROJECTORS** It's time to blow up your video!  
**AV RECEIVERS** 5.1, 7.1, 9.2 – we've got all the options covered **SPEAKERS** Killer surround sound setups  
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**NEED  
A NEW  
BD PLAYER?**  
Our **Top 10**  
guide is here  
to help



## HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★★☆☆
Dire	★★★☆☆

## TOP 10 TELEVISIONS

All prices are approx and may have changed

**Sony KD-65X9005B** → £3,600

★★★★★

A groundbreaking set from Sony. The 'Wedge' cabinet design affords room for a best-in-class audio performance from the side-mounted speakers, while imagery is hard to fault, with crisp 4K visuals and impressive motion. *HCC #236*

**Samsung UE65HU8500** → £4,000 ★★★★★

This second-gen 4K flagship is a first-rate (curved) flatscreen with colour-rich, lethally-sharp images. The external connections box provides welcome futureproofing. *HCC #234*

**Samsung UE55HU7500** → £2,300 ★★★★★

Don't want the curved form or higher price of the HU8500 range? Then step down to this flat model. No One Connect box, but otherwise it's equally impressive in PQ terms. *HCC #239*

**Panasonic TX-42AS600** → £430 ★★★★★

An example of the value that can be found in modern-day Full HD sets. This 42-incher offers the best elements of Panasonic's Smart system, dynamic images and a great price. *HCC #240*

**LG 65UB980V** → £3,000 ★★★★★

LG's 65in 4K display hides its size well courtesy of a super-cool bezel/stand design. Performance is generally excellent, barring a few backlight niggles, and the onboard speakers are fab. *HCC #241*

**LG 55EC930V** → £2,000 ★★★★★

OLED at an attainable price (well, almost), this 55-incher employs LG's WebOS platform and curved design. Full HD resolution, but the picture quality is stunning at times. *HCC #243*

**Linsar X24-DVD** → £300 ★★★★★

Many brands ignore screen sizes below 32in, so credit to Brit corp Linsar for releasing this 24in DVD-spinning Smart LED screen with punchy onboard speaker system. *HCC #244*

**Panasonic TX-55AX902** → £3,000 ★★★★★

Superior screen uniformity and crystal-clear detailing abound with Panasonic's pricey flagship LED screen, but motion processing isn't perfect. *HCC #244*

**Finlux 50F8075-T** → £600 ★★★★★

The best screen we've seen yet from the direct-retail brand, this 50-incher matches its affordability with a great user interface and solid, but not awe-inspiring, HD visuals. *HCC #234*

**Samsung UE40H6400** → £650 ★★★★★

This mid-market TV will probably sell like hotcakes. It ignores 4K in favour of Full HD, and combines a pleasing AV performance with plenty of useful Smart features. *HCC #236*

## TECH INFO: TELEVISIONS



**What? No plasma?:** The TV market is now dominated by LED-lit LCD screens. Manufacture and sale of plasma display panels (PDPs), which previously came into play above 42in, has ceased, although you may still find some end-of-line stock. With LED comes newer technologies. 4K models with a native resolution of 3,840 x 2,160 should at least be on your audition list if you're thinking of a new display; curved models are also a consideration if you want to really impress the neighbours. OLED technology is championed by LG.



**Active or Passive:** At the beginning of the 3D era, most TVs featured the Active system that uses relatively expensive, powered 3D specs to deliver full-res images to each eye. Passive 3D TVs, which are now more common, have a filter over the screen and use non-powered specs with polarising filters. The glasses are cheap as chips, but the resolution of Full HD 3D is halved to 540 lines horizontally (but remains at 1,920 vertically). The same halving occurs with a 4K screen. Some brands offer both Passive and Active models, depending on the panel used. Glasses-free 3D, heralded by Toshiba's early ZL2 TV, hasn't caught on, but still may make headway.

## TOP 5 BLU-RAY MOVIES

**Fury**

This gory WW2 tank drama rains artillery fire on your viewing room with a precise 5.1 DTS HD mix, and offers a moody 2.40:1 transfer that conveys the shot-on-film authenticity director David Ayer was aiming for.

★★★★★

**Dawn of the Planet of the Apes 3D**

Not only does this simian sequel impress with its smarts, it also delivers an admirable 3D encode, sensational 7.1-channel soundtrack and more extras than you can shake a banana at.

★★★★★

**Guardians of the Galaxy**

The Blu-ray for Marvel's blockbustin' laughter-packed space adventure sports an impeccable 2.40:1 AVC encode, some worthwhile bonus bits and a stonking DTS-HD Master Audio 7.1 soundtrack.

★★★★★

**Edge of Tomorrow 3D**

Tom Cruise's oh-so-enjoyable sci-fi caper didn't light up the box office, but it should be given a warm welcome on BD. Image quality here is sublime, and the 7.1 soundmix marries brutal bass with whizzy effects.

★★★★★

**Lucy**

Director Luc Besson covers some big ideas in this loony sci-fi flick, but doesn't ignore his passion for madcap car chases and choreographed action. Brilliant fun, and on a Blu-ray that relishes the stylised visuals.

★★★★★



## Top 10 BLU-RAY PLAYERS

All prices are approx and may have changed

- 1**  **Oppo BDP-103D → £600 ★★★★★**  
 Oppo's first deck for two years was worth waiting for. The universal BDP-103EU featured a class-leading build and all manner of bonus goodies, including twin HDMI inputs. AV performance was faultless, and the onscreen menus superb. This newer model, the BDP-103D, adds Darbee Visual Presence processing for you to play with. HCC #228
- 2**  **Oppo BDP-105D → £1,100 ★★★★★**  
 This heavyweight deck builds upon the premium picture performance of the BDP-103D with a wealth of audiophile upgrades – if you're serious about music, check it out. HCC #234
- 3**  **Arcam FMJ UDP411 → £1,200 ★★★★★**  
 Pristine visuals – including upscaled SD – and a classy sonic performance grant this Arcam instant appeal. The design and build is commensurate with the premium price tag. HCC #244
- 4**  **Sony BDP-S7200 → £220 ★★★★★**  
 A Sony deck without the curious angular design, the BDP-S7200 offers SACD support, hi-res audio streaming and 4K upscaling that's worth investigation. Not too pricey, either. HCC #239
- 5**  **Panasonic DMP-BDT700 → £500 ★★★★★**  
 Claiming THX-certified 4K upscaling and HDMI 2.0 60p passthrough, this mid-range deck from Panasonic is a good partner for a modern display. Great audio option, too. HCC #237
- 6**  **Samsung BD-H6500 → £130 ★★★★★**  
 Our current fave bargain BD deck – actually Samsung's 'flagship' model – is packed with Smart features, including support for the brand's multiroom system, and super-quick operation. HCC #236
- 7**  **Denon DBT-3313UD → £900 ★★★★★**  
 As a 'transport', this universal deck lacks built-in decoders and analogue outs, but partner it with one of the brand's AVRs via Denon Link HD and you'll be rewarded. HCC #217
- 8**  **LG BP645 → £100 ★★★★★**  
 An affordable, likeable offering from LG. The BP645 claims Spotify compatibility and Wi-Fi-enabled headphone listening among its bonus features. Slim but lightweight design. HCC #236
- 9**  **Pioneer BDP-160 → £130 ★★★★★**  
 The successor to the BDP-150 adds integrated Wi-Fi, making media file playback simpler. The Smart cupboard is still practically empty, but SACD support softens the blow. HCC #227
- 10**  **Toshiba BDX5500 → £120 ★★★★★**  
 The key attraction of Toshiba's £120 player (aside from its 3D, Miracast, 4K scaling and DLNA features) is its small form factor and vertical alignment. Good for space-tight setups. HCC #238

## TECH INFO: BLU-RAY PLAYERS

**Matching your deck to your AV receiver:** Blu-ray decks are designed to deliver top-notch images but Blu-ray is also about enjoying superior quality sound. When choosing a player, bear in mind the connectivity and decoding features of your AV receiver. If you're still using an older model that doesn't offer HDMI inputs, then you'll need a Blu-ray player with multichannel analogue audio outputs to enjoy decoded hi-res surround sound formats. Similarly, older but still HDMI-equipped receivers may not be able to cope with 3D video signals, in which case you'll need a deck with dual HDMI outputs – one channelling audio to your receiver amp, the other piping video direct to your TV.

**What about the PlayStation?:** Sony's console still represents an easy path to hi-def heaven. For a low-budget home cinema system, the £200 PS3 Slim (160GB) makes a decent choice – especially if you like playing games (in 3D, if you fancy it). Control via a joy pad is a pain, though, and the console runs more noisily than most BD spinners. The newer, more expensive PS4 is a much better gaming machine, but won't play CDs!



## DEMO DELIGHT

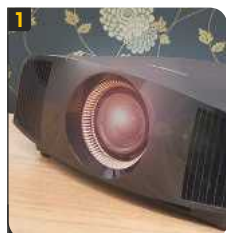
**Edge of Tomorrow:** This enjoyable, FX-packed Tom Cruise sci-fi scooped the Best Picture Quality gong in our Movie Awards. Shot on film for a realistic aesthetic, it transfers over to Blu-ray with a pristine 1080p image. The detailing is simply astonishing!

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## TOP 10 PROJECTORS

All prices are approx  
and may have changed**Sony VPL-VW300ES** → £5,800

★★★★★

Auditioning the newest, most affordable member of Sony's 4K range is a no-brainer. It loses a shade of brightness and the lens memory feature of its VPL-VW500ES stablemate, but retains the cinematic verve. Top of the class. *HCC #243*

**JVC DLA-X500R** → £5,000 ★★★★★

Armed with a more adept third generation of the brand's proprietary e-shift technology, the X500R continues JVC's winning ways – contrast rich, sharp and full of tweaks. *HCC #232*

**Epson EH-TW7200** → £1,900 ★★★★★

Priced to appeal to those unable to dabble in the £3,000 market, Epson's mid-ranger is a great purchase. No frame interpolation on offer, but colours, contrast and brightness impress. *HCC #232*

**JVC DLA-X700R** → £7,300 ★★★★★

A hefty chunk more expensive than the X500R, but with an improved contrast performance (and more flexible installation options) that will reward those who splash the cash. *HCC #238*

**Optoma HD50** → £1,000 ★★★★★

With a retweaked user interface that improves upon previous Optoma light-cannons, the 12V-trigger-toting HD50 is a brilliant budget buy. *HCC #239*

**Epson EH-TW6600W** → £1,700 ★★★★★

This offers plenty of bang for your bigscreen buck, including wireless HD (with switching skills), flexible setup, useful processing features and a punchy, vivid image quality. *HCC #241*

**BenQ W1070+** → £650 ★★★★★

An accomplished low-budget DLP model, the W1070+ offers ISF-certified calibration and a 12V trigger in conjunction with a sharp, bright, detailed performance. Bit of a bargain! *HCC #240*

**Philips Screeneo HDPI590** → £1,500 ★★★★★

Neatly designed, the Screeneo offers ultra-short throw projection thrills, albeit at 720p (and the DVB tuner is SD). Good speakers and networking skills complete a nice package. *HCC #233*

**Sony VPL-HW55ES** → £2,800 ★★★★★

Not one of Sony's 4K models, but this keenly priced Full HD projector delivers where it counts, with solid calibration options, simple setup and brilliant 2D visuals. No 12V trigger. *HCC #230*

**Epson EH-TW9200W** → £3,000 ★★★★★

A brilliant mid-range projector with wireless HD transmission and ISF certification, yet the noise generated when running in 'Normal' lamp mode could be a concern for some. *HCC #231*

## TECH INFO: PROJECTORS



**Installation:** Although projectors can be temporarily placed on a cupboard, stand or shelf situated at the rear of the room (use the adjustable feet on its base to level the image so that it aligns with the screen), a much better long-term solution is to mount it on your ceiling with an appropriate bracket. Projectors can be quite heavy, though, so it's important to ensure that the bracket is attached firmly – ideally, it should be secured to a joist. Position your PJ so that an imaginary line from its lens to the opposite side of the room hits the screen exactly half-way along its width. The location of your screen should therefore dictate where your projector is. A decent tape-measure or laser pointer will help you to determine the position.

**Throw distance:** Throw distance specifies the distance between the projector and screen for a focused image of given size. As the vast majority of projectors are equipped with a zoom lens, minimum and maximum throw distances are often specified – say, 3.01m to 6.08m for a 100in. 16:9 image. Shorter throw distances are ideal for smaller rooms, and longer ones for larger rooms. Simple.

**Throw ratio:** Sometimes, a manufacturer will quote a throw ratio rather than a throw distance. This is basically the throw distance divided by the image width. To get the projected image size, divide the distance between projector and screen by the specified figure. Once again, the inclusion of a zoom lens means that upper and lower figures are usually specified.

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## Top 10 SPEAKERS

All prices are approx  
and may have changed**B&W 683 Theatre 5.1** → £2,750

★★★★★

The first step on the floorstanding ladder in B&W's speaker stable, the revamped 600 Series incorporates new tweeter and bass driver designs and offers absurd value for money. Not the prettiest cabinets, but you really won't care. *HCC #234*

**KEF R Series 7.1** → £6,500 ★★★★★

A 7.1 array mixing dipolar and direct surrounds, this authoritative package takes its cues from KEF's Blade concept speaker and offers faultless, largescale home cinema sonics. *HCC #217*

**DALI Rubicon LCR 5.1** → £6,275 ★★★★★

Trickle-down tech from DALI's high-end Epicon speakers (including ribbon/dome hybrid tweeters) squeezed into on-wall cabinets – supremely adept with music and movies. *HCC #238*

**Kreisel Sound Quattro 7.2** → £8,500 ★★★★★

Mixing two mammoth woofers with some surprisingly manageable multi-tweeter speakers (including TriFX surrounds) this US package is supremely assured. *HCC #232*

**Artcoustic Spitfire SL 7.2** → £17,000 ★★★★★

Slimmed-down cabinets now even easier to install on-wall or behind a screen, with a multi-driver design ensuring they're easy to drive to high SPLs. Ideal for dedicated rooms. *HCC #233*

**Tannoy Precision Series 5.1** → £4,450 ★★★★★

These speakers' classic look belies the brand's hi-fi heritage, but this multichannel setup works wonders with movies, too – a rich, large and dynamic sound is on offer. *HCC #226*

**Definitive Technology ProCinema 600** → £500 ★★★★★

A compact system which achieves impressive scale courtesy of additional passive radiators mounted in the satellite cabinets. Slick styling and a cohesive, fun sound. *HCC #244*

**Monitor Audio Radius R90HTI** → £1,500 ★★★★★

The Radius speakers have been revamped with new drivers and rear ports, and this 5.1 set provides a clear, detailed sound with plenty of heft. Floorstanders are an option, too. *HCC #230*

**Polk Audio TL1600** → £330 ★★★★★

A great-priced 5.1 sub/sat package with some neat design flourishes and two-way driver arrays. Performance is good for the money – grab a budget AVR and get going! *HCC #243*

**Roth OLi RA 5.1** → £850 ★★★★★

A floorstanding array with neat design and reassuring build, this value-for-money pack delivers an impressive slice of scale to go with its full-range prowess. *HCC #233*

## TECH INFO: SPEAKERS



**Centre speaker:** Handles most of the dialogue and onscreen effects. Should be positioned above or below the screen as close to it as possible. Of course, if you're using a projector screen, it should ideally be placed behind it.

**Front speakers:** Left and right speakers should be positioned either side of the screen, in line with the centre. Turn the speakers in slightly to face the listener if there isn't an even movement of sound across the front of the room.

**Subwoofer:** Can be positioned wherever it sounds best or can be tucked out of sight due to the non-directional nature of low-frequency signals. Be aware that close positioning in corners or next to walls can create a boomy effect.

**Surrounds:** Position alongside the listener, pointing in or slightly behind the ears for a good surround effect. The back wall is not a good position for surrounds – it is, in fact, where you should locate the sixth and seventh speakers (rears) in a traditional 7.1 array.

## DEMO DELIGHT

**Godzilla:** Hollywood tackles the iconic aquatic beastie once again, and the Blu-ray comes armed with a DTS-HD MA 7.1 mix that's dynamic, powerful, aggressive, detailed and expansive from start to finish. Check out Chapter 8's M.U.T.O. circling sequence for a masterclass in precision and control.

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Certified



## TOP 10 AV RECEIVERS/AV PROCESSORS

All prices are approx  
and may have changed**Denon AVR-X5200W** → £1,700

★★★★★

Offering Atmos compatibility – and Auro-3D via a paid upgrade – the X5200W builds upon the good work of the X4100W, adding greater system flexibility courtesy of 11.2 processing and nine amp channels. Energetic sound. *HCC #243*

**Onkyo TX-NR838** → £1,000 ★★★★★

A nicely-specced mid-range AVR, offering 5.1.2 Atmos playback (as well as regular 7.1) in addition to HDCP 2.2 support, which will please future-gazers. Crisp-sounding sonics. *HCC #240*

**Arcam AVR750** → £4,000 ★★★★★

If all you want from an AV receiver is vast power and effortless performance, this high-end 7.1-channel beast is tailored to you. Little bonus features beyond audio networking. *HCC #225*

**Marantz NR-1605** → £600 ★★★★★

A brilliant option for those cowed by full-form AVRs, the NR-1605 sees Marantz retool its slender line to include integrated Wi-Fi and Bluetooth. Agile, sprightly and easy to use. *HCC #239*

**Datasat LS10** → £10,000 ★★★★★

The 'entry-level' AV slab in Datasat's home audio range, this processor (upgradable to Auro-3D for a fee) is all about precision. Feature-lite, but it sounds phenomenal. *HCC #244*

**Yamaha RX-A3040** → £2,000 ★★★★★

This superb Atmos-ready flagship AVR features a fluid, dynamic sonic signature, slick operation and reassuringly robust design and build. Good in stereo mode, too. *HCC #239*

**Anthem MRX-510** → £1,700 ★★★★★

The Canadian brand returns in style with an AVR that ignores streaming/networking features but boasts supreme room EQ and eats movie soundtracks for breakfast. *HCC #232*

**Primare SPA23** → £3,500 ★★★★★

A stripped-down five-channel amp that majors on sublime, and power-packed, multichannel delivery. Limited functionality, but that's not what this luxury slab is all about. *HCC #237*

**Pioneer VSX-924** → £500 ★★★★★

Pioneer's newest £500 model brings Bluetooth and Wi-Fi, an even better control app, HDMI 2.0 specification and under-the-hood tweaks. A great-value, good performer. *HCC #236*

**Yamaha RX-V577** → £500 ★★★★★

Loaded with DSP modes (some fun, some not) and Wi-Fi-enabled for audio streaming, this clean-sounding Yamaha is a great low-budget option. Bluetooth via optional dongle. *HCC #237*

## TECH INFO: AV RECEIVERS



**Tackling new heights:** A recent innovation in AVR circles is the introduction of Dolby Atmos, the object-based sound format that has taken off in commercial cinemas and is supported in the home by the likes of Onkyo, Pioneer, Denon, Marantz and Yamaha. This requires new height speakers in addition to a regular 'flat' 5.1 or 7.1 speaker configuration. The heights can either be physically mounted in/on your ceiling, or provided via up-firing reflective models. Setup can be complex, but the results are certainly impressive. Atmos-encoded Blu-rays are a bit thin on the ground, but you can use Dolby Surround post-processing with regular 5.1/7.1 soundtracks to get the most from your new AVR/speakers. Rivals to Atmos are Auro-3D, which uses height speakers in a different configuration, and the forthcoming DTS:X. Most AVR brands have already pledged support for the latter.

**How much power?:** Many of the mass-market AV receiver manufacturers are involved in a specifications race to see who can say their model is the most powerful, which can be confusing for consumers. For instance, both Krell's £7,000 S-1500 seven-channel power amp and Yamaha's £500 RX-V675 both claim 7 x 150W – the important part is that Krell's figure is into an eight-ohm load with all channels driven, and that Yamaha's is with one channel into a four-ohm load, which is hardly a real-world situation. The best advice is ignore the numbers game and get a demo of your desired AVR with the same, or similar, speakers that you intend to partner it with.

## TOP 5 BONUS FEATURES

**Scream Queens: Horror Heroines Exposed**

Found on 88 Films' recent hi-def outing for classic 1980s slasher *Graduation Day*, this feature-length doc lets some of the genre's leading ladies reminisce about the horror industry.

★★★★★

**Gravity: Mission Control**

A fascinating nine-part documentary that tells you everything you could ever want to know about the technical challenges that had to be overcome to create Alfonso Cuarón's sci-fi smash.

★★★★★

**The Furious Gods: The Making of Prometheus**

Ridley Scott's films always come loaded with extra features (remember *Blade Runner?*) and *Prometheus* is no exception. This is easily one of the best *Making of...* docs ever made.

★★★★★

**Episode Reconstructions**

Only 20 of the 49 episodes of the BBC sci-fi series *Out of the Unknown* still exist in the archives. Thankfully, the BFI's DVD boxset uses surviving audio and stills to reconstruct several of these missing shows.

★★★★★

**Evolution with Extinction**

Clocking in at around two hours, this eight-part supplement looks at every aspect of the creation of Michael Bay's *Transformers: Age of Extinction*, from developing the story right up to the film's Hong Kong premiere.

★★★★★



Top 10 SUBWOOFERS

All prices are approx & may have changed

- 

**SVS SB-2000** → £650 ★★★★★  
This follow up to the SB-1000, which incorporates a new 12in driver and revamped Sledge DSP amplifier, offers immense value for money. A mid-sized woofer that imbibes your Blu-rays with potent LFE, the SB-2000 sounds quick and taut, and is a perfect introduction to what a truly good sub can accomplish. *HCC #233*
- 

**JL Audio Fathom F212** → £5,900 ★★★★★  
The US brand arrives in the UK in style – this 2 x 12in, 3,000W brute not only looks gorgeous, it's capable of a mindblowing performance. Got a big room? Get one of these! *HCC #214*
- 

**Tannoy TS2.12** → £550 ★★★★★  
The TS2.12 is easily Tannoy's best woofer yet – using a 12in driver (opposite a passive 12in cone) and 500W amp to deliver a rich bass performance. Affordable and good-looking, too. *HCC #208*
- 

**REL S-5** → £1,600 ★★★★★  
A step up from the T series (below), this 12in model is large and weighty, with a performance level to match. Fast and tight but capable of dropping very low indeed. *HCC #234*
- 

**Bowers & Wilkins DB1** → £3,250 ★★★★★  
Featuring a bipolar arrangement of 12in drivers powered by 1,000W of amplification, B&W's stylish flagship sub is a faultless performer, offering both musicality and sheer muscle. *HCC #197*
- 

**REL T-7** → £650 ★★★★★  
The T-7 uses an 8in driver in tandem with a 10in passive radiator, and features simultaneous speaker-level and LFE inputs and Class A/B amplification. An excellent all-rounder. *HCC #223*
- 

**Bowers & Wilkins PVID** → £1,200 ★★★★★  
One of the coolest-looking subs on the planet, B&W's PVID uses DSP trickery to craft an opulent low-end performance. The touch-sensitive OLED display is pure class. *HCC #212*
- 

**JL Audio E-Sub e112** → £2,050 ★★★★★  
This 12in, 1,500W model from JL Audio's 'entry-level' line seems pricey, but its performance, design and tuning options make the investment oh-so worthwhile. *HCC #240*
- 

**REL Habitat 1** → £1,300 ★★★★★  
With its LongBow wireless system and wall-mountable design, REL's newest woofer is aimed at those seeking discreet bass. Twin 6.5in drivers work fast and with considerable grip. *HCC #231*
- 

**SVS PB-2000** → £750 ★★★★★  
The ported sibling to the SB-2000, this woofer uses the same driver and amp arrangement, but in a far larger cabinet. Bass goes deeper, but not at the expense of finesse. *HCC #243*

TECH INFO



**Why use more than one sub?:** Using two subwoofers (or perhaps four) should, in theory, bring huge rewards in terms of bass performance. But remember that LFE is a tricky beast to control. Running two subs may simply double problems in your room like room boom and suck-outs, where outgoing and reflected bass sounds cancel each other out. If you have some flexibility in where you place subwoofers, trial and error may well throw up some interesting results. The acoustics wizard Floyd E Toole (his book *Sound Reproduction: The Acoustics and Psychoacoustics of Loudspeakers and Rooms* is fine bedtime reading) suggests one LFE sub to either side of the room may be best for accuracy while placing them in the front corners would be best for overall bass power. Yet there is no hard and fast rule as to what will work best for every room, and you may find that simply using one (large) subwoofer is preferable as it's the easiest to get sounding right.

DEMO DELIGHT

**The LEGO Movie:** This colourful, great-looking animation from Warner Bros is a visual treat on Blu-ray, and matched by a 5.1 DTS-HD Master Audio mix that revels in its use of the LFE channel. Stonking bass is the order of the day here – the bangs, thumps and explosions of the manic 'toon action are underpinned by a forceful, full-bodied low-end that's guaranteed to get the most out of your subwoofer.

Top 5 HD GAMES



**Halo: The Master Chief Collection**  
Xbox One releases don't come much more essential than this collection of remastered HD versions of the first four *Halo* games, plus access to the beta version of the upcoming *Halo 5*. ★★★★★



**Far Cry 4**  
Ubisoft cements its position as the undisputed king of the 'sandbox-shooter' as it serves up a beautifully-rendered and sonically immersive Nepalese nation state for you to blast your way around. Huge fun. ★★★★★



**Alien Isolation**  
This fantastic 'survival-horror' captures the unsettling atmosphere of Ridley Scott's feature film with aplomb. The lighting effects and audio cues are suitably spooky, and the gameplay is nerve-shredding. ★★★★★



**Middle-earth: Shadow of Mordor**  
A third-person adventure set between the events of the *Hobbit* and *Rings* trilogies, Tolkien fans will lap this up. Graphically rich, and with a hard (but rewarding) learning curve. ★★★★★



**Dragon Age: Inquisition**  
Finished with *Skyrim*? Then pick up this third instalment in the *Dragon Age* fantasy RPG series. A great-looking title, with plenty of side-quests littered around its vast open world to keep you adventuring for hours. ★★★★★

## TOP 10 ACCESSORIES

All prices are approx and may have changed

- 1 Now TV box → £10 ★★★★★**  
 An unqualified bargain, this Wi-Fi VOD streamer from Sky (and built upon Roku hardware) brings BBC iPlayer, Demand 5 and the Roku Channel Store to any HDMI-toting telly, plus subscription access to Sky Movies and Sky Sports. The quality of the adaptive bitrate streaming is impressive, and the £10 tag gets you P&P and an HDMI cable. *HCC #226*
- 2 Devolo dLAN 650 Triple+ starter pack → £120 ★★★★★**  
 This package makes Powerline networking fast (claimed at up to 600Mbps) and easy. The three-port Ethernet extender is sleekly designed, and provides a regular plug socket, too. *HCC #239*
- 3 Dune HD Base 3D → £250 ★★★★★**  
 A media player for the AV enthusiast. Full-width and fully-featured, it provides support for 3D BD rips and much more, with a slick user interface and plenty of connectivity. *HCC #235*
- 4 Amazon Fire TV → £70 ★★★★★**  
 A media player for the Smart generation, this affordable puck features class-leading voice recognition that makes content browsing fun – indispensable for Amazon Prime lovers. *HCC #243*
- 5 HDAnywhere mHub → £1,000 ★★★★★**  
 An impressively flexible multiroom solution that allows HD video and audio to be sent via Cat cable to four displays from multiple sources. Includes HDMI mirroring, too. Handy. *HCC #240*
- 6 Philips Hue → £180 ★★★★★**  
 These Wi-Fi enabled lightbulbs might be expensive (this £180 starter pack includes two, plus the Wi-Fi bridge) but making your own multicoloured lighting scheme is a blast. *HCC #220*
- 7 Panasonic HC-X1000 → £2,500 ★★★★★**  
 A 4K camcorder aimed at more than just the point-and-shoot brigade, this prosumer model drips with features and can capture movies/still images with astonishing clarity. *HCC #244*
- 8 Monitor Audio Airstream A100 → £400 ★★★★★**  
 Partner your TV with the speakers of your choice with this networked, AirPlay-streaming two-channel amp. Great, svelte design – bit awkward to control, though. *HCC #238*
- 9 Microsoft Xbox One → £430 ★★★★★**  
 Not as graphically potent as the PS4 (below) but the new Xbox lives up to its billing as a home entertainment hub – voice control and multi-tasking tricks prove very useful. *HCC #230*
- 10 Sony PlayStation 4 → £350 ★★★★★**  
 The PS4 offers a killer gaming experience, with the under-the-hood power resulting in great-looking games. 3D Blu-ray playback has now been added via firmware. *HCC #229*

## TECH INFO: MEDIA PLAYERS



**What about my TV?:** Most flatscreen TVs from the major brands (Sony, Samsung, Panasonic, LG, Toshiba and Sharp) also incorporate media player functionality, using Ethernet or Wi-Fi to stream from your home network, or from plugged-in USB drives. Most modern Blu-ray players offer this, too. However, file support is rarely as extensive as on dedicated devices from the likes of Western Digital and A.C. Ryan, and our experience shows some are more adept at playback from USB than over a network. Nor (obviously) is a TV or BD player portable. If your media collection extends beyond JPEGs and MP3s into lossless audio rips and esoteric HD video formats, then a standalone player is a good investment.

**Storage:** You can, if you really want, store all your files on a plethora of USB drives, or on your PC, but it's best to get a NAS (Network Attached Storage) device for simplified sharing of your media across a network with



multiple players, such as one from Netgear's ReadyNAS range (pictured). These dedicated devices often offer RAID array file backup, and are managed via browser software. Storage capacity can be anything from 1TB to 12TB and beyond.

## TOP 5 BLU-RAY/DVD BOX SETS


**Camera Obscura: The Walerian Borowczyk Collection**

Produced with the help of fans via a crowdfunding scheme, this celebration of the controversial filmmaker is one of the most astonishing BD sets ever made.

★★★★★


**Game of Thrones: The Complete Fourth Season**

Now in its fourth run, HBO's award-winning fantasy series continues to dazzle, as do the Blu-ray releases – the AV presentation here is superb, backed up by plenty of extras.

★★★★★


**Vincent Price in Six Gothic Tales by Edgar Allen Poe**

Limited to just 2,000 copies, this bumper boxset boasts feature-packed editions of six classic shockers starring the 'Merchant of Menace', four of which make their UK Blu-ray debut here.

★★★★★


**Doctor Who: The Complete Eighth Series**

He might have a new face and new attitude, but where this Blu-ray boxset is concerned it's business as usual for the BBC's Time Lord – namely stunning HD visuals and impactful 5.1 audio.

★★★★★


**Twin Peaks: The Entire Mystery**

Both seasons of the US cult TV series and the prequel flick ...Fire Walk With Me are given a fan-pleasing 10-disc BD release, sporting 7.1 DTS-HD audio and a treasure trove of bonus bits.

★★★★★



## Top 10 SOUNDBARS &amp; SOUNDBASES

All prices are approx  
& may have changed

- 

**Canton DM75** → £450 ★★★★★  
Bigger and bolder than the already excellent DM50 (which retails for £100 less), Canton's sturdily-built soundbase speaker lacks HDMI inputs but makes up for it with Bluetooth streaming and a brilliant 2.1-channel performance packing weight, scale and detail. Simplistic, understated design. *HCC #243*
- 

**Monitor Audio ASB-2** → £1,000 ★★★★★  
This premium proposition marries Monitor Audio's C-CAM drivers with AirPlay and DLNA music streaming. Performance is exemplary – powerful and polished in equal measure. *HCC #229*
- 

**Yamaha YSP-2500** → £800 ★★★★★  
An HDMI-switching 'sound projector' using Yamaha's Beam tech to craft impressive surround sonics from its drivers. Efficient sub, plenty of detailing and fun/useful app control. *HCC #243*
- 

**Q Acoustics Media 4** → £400 ★★★★★  
A no-nonsense offering from the speaker specialist, which ignores HDMI inputs and daft DSP modes in favour of creating a nuanced, solid 2.1 soundscape. *HCC #238*
- 

**Philips HTL9100** → £600 ★★★★★  
A soundbar/sub that incorporates two removable side speakers to allow it to become a wireless 5.1 system, this Philips is a neat proposition, and easy to install. *HCC #238*
- 

**Pioneer SBX-N500** → £250 ★★★★★  
£250 gets you this single-enclosure audio offering with welcome DLNA functionality, USB input, HDMI ARC output (but no input) and Bluetooth. Weighty, vibrant sound. *HCC #238*
- 

**Yamaha SRT-1000** → £450 ★★★★★  
A reasonably sleek soundbase with a thumping bass output, crisp highs, app control and Beam driver tech that strives hard to deliver a 5.1 experience. *HCC #243*
- 

**Paradigm Soundscape** → £1,300 ★★★★★  
A costly option from Paradigm (particularly as it lacks HDMI inputs), but the Soundscape performs with real zeal, mixing silky incisive highs with vast scale and snappy dynamism. *HCC #239*
- 

**Humax STE-1000BSW** → £180 ★★★★★  
A striking design and bargain price tag will get Humax's debut 'bar plenty of admirers. Performance is decent for the money, albeit lacking low-frequency finesse. *HCC #238*
- 

**Samsung HW-7501** → £600 ★★★★★  
Got a curved TV? Then you'll be interested in this curved soundbar from Samsung. Subwoofer and mid-range impress the most – high frequencies can sound shrill on occasion. *HCC #244*

## TECH INFO: TV PLATFORMS



## TV addicts – go free, or pay-to-view?:

The landscape of the UK television industry has changed hugely in the last decade. The analogue switch-off has created a competitive market in free-to-air platforms, while Sky and Virgin Media are squaring up to the likes of EE TV, Amazon Prime and Netflix. Deciding which service is right for you can be complex, and you may find your needs are best catered for by a combination.

**Sky+HD:** The long-running satcaster offers a plethora of HD channels, with content including recent movie releases, live sports and sought-after US shows. Hardware options include the 2TB dual-tuner PVR.

**Virgin Media TiVo:** The cable giant offers a three-tuner PVR (1TB) with intelligent TiVo recording tricks, catch-up apps (including Netflix and Spotify), and over 240 channels (depending on package). Premium Sky content can be added on a monthly basis.

**Freeview:** The common option when it comes to TVs and set-top boxes. Freeview offers 13 HD channels (depending on regional roll-out) plus SD and radio. No contract fee.

**Freesat:** Satellite service offering a similar – but not identical – channel lineup to Freeview, delivered to your HD flatscreen via a dish but without a subs cost. As with Freeview, budget-priced STBs are available.

**YouView:** This relatively new kid on the block integrates the UK's main catchup portals directly into a backwards EPG. Again, channels are broadly similar to Freeview and there's no contract. Humax (PVRs) and Sony (TVs) are leading the hardware charge.

## Top 5 BACK-CATALOGUE BLU-RAYS

**Thief: Limited Edition**

Boasting a 4K restoration of the director's cut in addition to an exclusive hi-def presentation of the original theatrical version, this Blu-ray release of Michael Mann's stunning debut feature is an absolute steal.

★★★★★

**Withnail and I: Limited Edition Boxset**

The revered '80s comedy gets the red carpet treatment, with a new 2K restoration improving vastly on previous releases. Extras on this limited edition set include a 200-page book!

★★★★★

**Metropolis: Ultimate Collector's Edition**

Limited to just 4,000 copies, this re-release takes Masters of Cinema's original Blu-ray and adds Giorgio Moroder's pop-tastic re-imagining of the film and two new documentaries.

★★★★★

**The Wizard of Oz 3D**

Delivering the best-looking version of the film to date (derived from a new 8K scan), this superb pack also squeezes in all the original extras and a 3D conversion that adds layers of fun to Dorothy's adventure.

★★★★★

**The Day The Earth Caught Fire**

The highlight of the BFI's 'Sci-Fi: Days of Wonder' festivities, this stunning Blu-ray restoration should introduce this underrated British disaster flick to the wider audience it deserves.

★★★★★

# stimulation comes as standard...



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## TOP 5 PVRs

**Virgin Media TiVo, £subscription**

This triple-tuner PVR offers ultimate recording flexibility, useful features – you can undelete deleted shows! – and awesome TiVo functionality. A no brainer if you're in a cable area

★★★★★

**Sky+HD, £subscription**

Sky's channel choice is second-to-none and its twin tuner 2TB PVR is a perfect partner. The recent EPG tweak is welcome and Anytime (the push VOD service) is brilliant for catching up on new movies

★★★★★

**Panasonic DMR-HW220, £250**

Panasonic's PVR mixes a 1TB hard drive with its Smart Viera functionality and media streaming – so at £250 it's an absolute steal, regardless of the uninspired design

★★★★★

**Pure Avalon 300R Connect, 1TB, £350**

Pure's debut Freeview+ HD offering is assured. While it can't match YouView for VOD content, the user interface here is unrivalled and four-way HDMI switching a welcome addition

★★★★★

**EE TV Smart Box £subscription**

This quad-tuner 1TB PVR, from the mobile/broadband corp, offers innovative Replay 24-hour channel recording and great Smart device streaming. Needs more catch-up though

★★★★★

## TOP 5 HEADPHONES

**Sony MDR-HW700DS, £800**

Comfy cans supplied with an HDMI surround processor, enabling multichannel audio to be fed to a virtual 9.1-channel soundstage. The effect is superb – great for late-night listening

★★★★★

**Oppo PM-1, £1,100**

Audiophile-grade, using planar magnetic driver designs, and with a lush design and build. The sound quality of the PM-1s is superb, so while these are undoubtedly costly, buyers won't be disappointed

★★★★★

**Lindy Cromo NCX-100, £100**

A cost-effective domestic option and great for travelling, these noise-cancelling 'phones (which can also be used as a normal passive design) feature a pleasant, balanced sound

★★★★★

**PSB M4U1, £220**

Aimed at both home and on-the-move use (and supplied with a carry case and two cable options), the M4U1s offer solid bass response and impactful highs. Build quality is good, as is comfort

★★★★★

**AKG K550, £200**

The styling of these closed-back cans is reassuringly 'classic' and the sound signature is surprisingly open and spacious. Use them for movie watching and you'll enjoy a good sense of scale and weight

★★★★★

## TOP 5 SYSTEMS

**Panasonic SC-BTT505, £600**

Two-way driver arrangements in these grown-up looking speakers (plus a dizzying range of features) make this a great purchase. Big, dynamic sound, with strong dialogue

★★★★★

**Samsung HT-H7750WM, £850**

The top-flight system from Samsung in 2014 uses tallboy speakers all around. Plenty of features here, and a fulsome 5.1 performance, but the build quality is a bit disappointing

★★★★★

**Harman/Kardon BDS470, £650**

Harman's 2.1 system eschews 'net TV and streaming features, but majors in heavyweight build quality and solid AV performance. We tested a 2.1 iteration – 5.1 is also available

★★★★★

**LG BH8220B, £650**

With its silver finish, this is a suitable one-box system to partner with LG's flatscreen TVs, with a commendable, if slightly lacking in HF finesse, sound. Additional features including CD-ripping to USB. Handy

★★★★★

**Panasonic SC-HTB570, £350**

A commendable slim-line 2.1 system that can also be clicked together to make a soundbar. The punchy wireless subwoofer does a lot of the work. Bluetooth music streaming is onboard

★★★★★

# HOME CINEMA

## Choice

## → IN THE NEXT ISSUE

**The 10 Commandments of AV!** And why it's okay to break the rules...

**Made in China** The TV brands hoping to take over the world

**Panasonic passion** 2015 lineup unveiled

## → ON TEST

**NAD Masters M17 and M27 pre/power combi**  
**Philips 48PFS6909 LED TV** **Pioneer BDP-LX88**

**Blu-ray player** **Acoustic Energy 1-Series 5.1 array** **Crystal Acoustics Teevy 6 soundbar**

**PLUS** News, software, opinion, AV rooms and more!

CONTENTS SUBJECT TO CHANGE – BUT ONLY FOR THE BETTER

ISSUE  
#246 ON SALE  
Apr 9

# AUDIOVISUAL — ONLINE —

- Home Cinema
- Hi-Fi
- Speakers
- Brackets

- Accessories
- Cables
- Furniture
- Mounts

## Expert Advice

Contact us with your questions, we have the answers!

### Bronze BX5 AV 5.1 Speaker Package

MONITOR AUDIO

ON DEMO

This speaker pack blends the best of its award winning predecessors (The wonderful Monitor Audio Bronze BR range).

14th December 2010

WHAT HI-FI? SOUND AND VISION

"Smooth looks and finish, unified"

QUOTE ME 3933

### Silver 6AV12 5.1 Speaker Package

MONITOR AUDIO

ON DEMO

The gorgeous wideband sound that distinguishes new Silver's two-channel models is multiplied by the Silver 6AV12 system.

- ✓ RST cone profile
- ✓ High quality crossovers

QUOTE ME 7851

MONITOR AUDIO

ON DEMO

## NEW GOLD RANGE

### Radius R90HT1 5.1 Speaker Package

MONITOR AUDIO

ON DEMO

Blending compact size with great sound and seductive styling, this system will add explosive audio dynamics and glamour.

1st October 2013

WHAT HI-FI? SOUND AND VISION

"Beautifully balanced sound"

QUOTE ME 8064

### MR4 AV 5.1 Speaker Package

MONITOR AUDIO

ON DEMO

Monitor Audio has created a system with an entry level price but high-end performance.

- ✓ Gold Dome C-CAM
- ✓ MMP II Bass Driver

QUOTE ME 11873

### MASS AV 5.1 Speaker Package

MONITOR AUDIO

ON DEMO

MASS from Monitor Audio is the new little speaker package with the huge sound.

19th October 2012

WHAT HI-FI? SOUND AND VISION

"Cohesive, engaging soundfield"

QUOTE ME 5573

MONITOR AUDIO

ON DEMO

## PLATINUM PACKAGES

### Apex AV 5.1 Speaker Package

MONITOR AUDIO

ON DEMO

If you aspire to great sounding speakers and a sleek, stylish home - these award winners have to be the number one choice.

21st July 2010

WHAT HI-FI? SOUND AND VISION

"Large-scale sound, no-nonsense looks"

QUOTE ME 3937

Velodyne

Subwoofers and wireless transmitters



REL

Subwoofers, wireless transmitters, cable



### SPL-800 Ultra Subwoofer

Velodyne

Powerful bass from tiny cabinets has never looked so good. Featuring a contoured cabinet design and beautiful finish.

- ✓ Easy placement, compact
- ✓ Slim-line remote

QUOTE ME 4174



### MicroVee Compact Subwoofer

Velodyne

With over twenty years of experience building the world's finest, most accurate subwoofers, you can depend on the MicroVee.

- ✓ Smallest Velodyne sub
- ✓ Ribbed aluminum cabinet

QUOTE ME 4167



### Habitat Wireless Wall Mountable Subwoofer

REL

A brilliant new concept that takes sub bass to new levels by incorporating the room, your Habitat, into our design.

- ✓ Wireless connectivity
- ✓ Wall mountable or free standing

QUOTE ME 8577



### TZero Modern Subwoofer

REL

T-Zero makes each experience better, enriching even modest systems with power and natural bass.

- ✓ Classic REL Design
- ✓ Superb Build Quality

QUOTE ME 5258



### S5 Performance Subwoofer

REL

Serie S™ combines a higher performance level than REL have ever set out to deliver. With ease of use and freedom from restraint.

- ✓ Sonic performance
- ✓ LongBow™ Wireless Delivery

QUOTE ME 8205



### T5 Sub-Bass Subwoofer

REL

Delivering exceptional low-bass performance, rugged build quality and unique design.

- ✓ True full-range experience
- ✓ Closed box, down firing woofer

QUOTE ME 7553



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### S-Flex Studio Grade Speaker Cable 2 x 2.5

FISUAL

Developed with ultimate flexibility and quality in mind. With a soft tactile feel and multi strand copper conductors.

- ✓ 99.9% oxygen free copper
- ✓ Super low-loss signal transfer

QUOTE ME 4142



### FLX-SLiP 14/4 Speaker Cable

audioquest.

The protective outer jacket is sleek enough to easily thread through walls and it's fire-rated.

10th September 2012

WHAT HI-FI? SOUND AND VISION

"Does finesse and subtlety just as well as dynamic heft and punch"

QUOTE ME 7458



### Pearl High Speed HDMI Cable

audioquest.

This may be at the budget end of HDMI cables but certainly does not disappoint.

17th May 2011

WHAT HI-FI? SOUND AND VISION

Pearl is one of the more wallet-friendly HDMI options.

QUOTE ME 4294



### Forest High Speed w/Ethernet HDMI

audioquest.

Constructed from superior long grain copper, each conductor is coated with silver for improved conductivity.

14th May 2010

WHAT HI-FI? SOUND AND VISION

"Very nearly the match of the all-powerful Chord Superspeed"

QUOTE ME 6696



### Havana Custom Made XLR Cable

FISUAL

Uses a twisted four conductor configuration with a High density polyethylene dielectric.

- ✓ UK assembly
- ✓ Silver plated conductors

QUOTE ME 4050



### Silver Anniversary XT

QED

Specifically designed as the natural replacement for the multi-award winning QED Silver Anniversary.

11th June 2008

WHAT HI-FI? SOUND AND VISION

"Excellent performance for a budget cable"

QUOTE ME 739



### Reference HDMI High Speed w/ Ethernet

QED

Incorporates a new passive band pass filter to provide outstanding digital signal integrity.

14th May 2010

WHAT HI-FI? SOUND AND VISION

"Great detailing, sharp pictures"

QUOTE ME 5102



### Performance Graphite Digital Optical Cable

QED

The award winning QED Performance Optical cable in sleek looking graphite finish.

7th August 2008

WHAT HI-FI? SOUND AND VISION

"Accurate and competent"

QUOTE ME 4730



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### NR1605 Slimline Network AV Receiver

**marantz**

Marantz are the experts when it comes into cramming in pure AV performance into one compact case.



**BEST PRICE**

- ✓ Wi-Fi and Bluetooth built in
- ✓ HDMI scaling 1080p, 4k 30Hz

QUOTE ME  
**11376**

### RX-A3040 11.2 Channel AV Receiver

**YAMAHA**

The Yamaha RX-A3040 contains 9 channels of high-grade amplification which is expandable to up to 11.



- ✓ Dolby Atmos
- ✓ "Best High-End AV Receiver"

QUOTE ME  
**10872**

### VSX-S510 Slimline 6.2 Channel Receiver

**Pioneer**

Measuring just 85 mm high and 317 mm deep, the VSX-S510 slim receiver is still packed with tons of features.



- ✓ Stream with ease
- ✓ 4K Ultra HD Ready

QUOTE ME  
**14701**

### RX-A2030 Aventure AV Receiver

**YAMAHA**

Network AVENTAGE AV Receiver that ensures audiophile performance and features Advanced HDMI Zone Switching.



- ✓ 4K Upscaling
- ✓ Apple Airplay

**47% OFF**

QUOTE ME  
**8046**

### TX-NR636 Black 7.2 Channel AV Receiver

**ONKYO**

It's one of the only A/V receivers to support future Ultra HD movie streaming as well as 4K gaming at 60 fps.



**BEST PRICE**

- ✓ 3D Ready
- ✓ Wi-Fi

QUOTE ME  
**8298**

### SR6009 Black 7.2 Network AV Receiver

**marantz**

Fulfills some serious Hi-Fi demands with the integration of most current streaming technologies.



- ✓ Apple Airplay
- ✓ Bluetooth

QUOTE ME  
**11446**

### TX-NR3030 11.2 Channel AV Receiver

**ONKYO**

The TX-NR3030 serves up revolutionary Dolby Atmos surround-sound complete with Liquid 4K video at 60 frames per second.



- ✓ Dolby Atmos Sound
- ✓ Latest HDMI for 4K/60 Hz Video

QUOTE ME  
**11915**

### AVR-X5200W 9.2 Channel Receiver

**DENON**

The AVR-X5200W is a powerful 9 channel amplifier with 11.2 channel processing and 13.2 preout.



- ✓ Dolby Atmos Sound
- ✓ Easy to setup

QUOTE ME  
**12405**

### 2050i Floorstanding Speakers

Sonically and aesthetically enhanced by its integral steel plinth with 'top configurable' floor spikes.



"They're well built, with integral steel plinths and internal bracing that keep them sturdy."

20th July 2010  
**WHAT HI-FI? SOUND AND VISION**  
★★★★★

QUOTE ME  
**5063**

### YSP-2500 Sound Projector

**YAMAHA**

Creates beams of sound and bounces them off the walls of your room.



1st October 2014  
**WHAT HI-FI? SOUND AND VISION**  
★★★★★

QUOTE ME  
**9164**

### 2020i Bookshelf Speaker Pair

**Q**

Great lines and superb performance, a great set of bookshelf speakers.



19th October 2011  
**WHAT HI-FI? SOUND AND VISION**  
★★★★★

QUOTE ME  
**4988**

### 7000i Black 5.1 Speaker Package

**Q**

Unique shapes and sturdy aluminium cabinets sport a sleek matt finish.



8th October 2013  
**WHAT HI-FI? SOUND AND VISION**  
★★★★★

QUOTE ME  
**8100**

### CX-S Satellite Speakers

**AUDICA**

Get the minimalist look. These will complement any modern home.



- ✓ Stylish
- ✓ Compact

QUOTE ME  
**12174**

### Zensor 1 Bookshelf Speakers

**DALI**

DALI Zensor 1 offers a stunningly realistic soundstage for their price point.



29th June 2011  
**WHAT HI-FI? SOUND AND VISION**  
★★★★★

QUOTE ME  
**6982**

### ASB-2 Soundbar

**MONITOR AUDIO**

The ultimate audio hub for the modern home.



23rd December 2014  
**WHAT HI-FI? SOUND AND VISION**  
★★★★★

QUOTE ME  
**8066**

### Zensor 5 Floorstanding Speakers

The distinctive look of DALI's wood fibre cones complete the package blending sound and style effortlessly.



"The top of the frequency range is clean and detailed, and integration is smoothly achieved."

6th October 2011  
**WHAT HI-FI? SOUND AND VISION**  
★★★★★

QUOTE ME  
**5429**

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# POINT OF VIEW

**Richard Stevenson** owns multiple pairs of headphones, but doesn't trust any of them to really satisfy his movie-watching needs – so it's off to the drawing board

**HEADPHONES ARE THE** best-selling audio device on the planet. I have no idea why, as they don't have enough channels for home cinema. I'm not convinced of the efficacy of headphones out of the home either; I have a hi-fi in the car, using them cycling is just plain dangerous and cutting-off my audio senses while on public transport surrounded by knife-wielding hoodies doesn't bear thinking about. Okay, I admit I don't get out on public transport that much, but I have read the *Daily Mail*.

So it came as a surprise when Mrs S declared she was off to bed early and demanded that I use headphones to watch the end of *Teenage Mutant Ninja Turtles*. I sat there blinking, trying to work out what she meant. She made a cuppy over-the-ear gesture, followed by another gesture that means the previous gesture is not open to negotiation. Did I even own a pair of headphones?

It transpired I have seven pairs. This clearly goes some way to explain why headphones are a £100m-a-year business in the UK alone. I have four sets of in-ear models that are for use on planes. Why four? Because I forget to pack them and then have to buy another set at the airport. I also have three over-ear models; one wireless set I bought for use while lawn-mowing (that doesn't sound sensible written down), an antique pair of Sennheisers and some Yamahas that I was given at a press show. **The Sennheiser ear-pads looked like they might crumble to dust like a vampire in sunlight**, the cordless pair weren't charged and, obviously, you just can't wear in-ear models unless you're drinking wine out of 175cl bottles and eating with plastic cutlery.

So Yamaha's inexpensive HPH-M82s got broken out of their brand-new pack. It took me a while to find the headphone output on my amp, mostly

because I was looking for a 3.5mm hole not a 1/4in socket. Hey, remember those? Adapter found, the next issue was that the cable was too short. A 10m stereo jack-to-jack mic lead and a female/female jack coupler was deployed. Sit back, press play.

Hmmmm. Well, while the sound was pretty crisp and entertaining, the AVR had defaulted to stereo. Thankfully, forcing it into Dolby TrueHD mode added more virtual space and clarity to the effects and within seconds I was back into the movie.

## Hang on lads, I've got a great idea

By the time the credits rolled I could see real scope for headphones for home cinema. They just need a redesign. A 10m lead with a 1/4in jack plug is mandatory, as too is stay-cool ears pads like Yamaha's M82s. No amount of phase trickery and processing is going to get *bona fide* 11-channel sound from two drivers (although I understand Sony's MDR-HW700DS comes close) so the design of each clamshell has to be much bigger. Half-melon sized, in fact. Each will incorporate six drivers: two positioned for height info; three for front, side and back channels; and one low to create a virtual centre channel in the middle of your head.

That won't solve the bass issue, so this is where the design really steps out. How about adding a third half-melon-sized clamshell that sits on the back of your head, containing a 5in bass driver and a handy cushion? You can now enjoy surround sound with visceral bass pounding into your cerebellum while resting your head – and the not inconsiderable weight of these cans – comfortably on the sofa.

Venture capitalists and interested manufacturing partners – I'm waiting for your call ■

*Are headphones part of your home theatre setup?  
Let us know: email [letters@homecinemachoice.com](mailto:letters@homecinemachoice.com)*

**Richard Stevenson's** has also tried watching movies while mowing his lawn by tethering an iPad to a pole in the centre and going in circles





# JVC

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e-shift3

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Not only is the range designed for ultra-high 4K resolution and is 60p ready. It also has the new JVC e-Shift 3 technology, this means it can shift sub-frames to achieve 4 times the pixel density of the original

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Now in it's sixth generation, our D-ILA Projectors have always set new standards. Capable of delivering images of advanced quality with extreme realism and presence in your home cinema environment.

But after all seeing is believing, so to arrange a product demonstration email [hdworld@jvc.co.uk](mailto:hdworld@jvc.co.uk)  
Or for more information visit: [www.jvc.co.uk](http://www.jvc.co.uk)

DLA-X500R has been awarded:



DLA-X700R has been awarded:



\* The 2014 range of JVC D-ILA Projectors consists of model numbers DLA-X900R, DLA-X700R, DLA-X500R. Visit [www.jvc.co.uk](http://www.jvc.co.uk) for more details. \*\* Contrast ratio specifications are for the DLA-X900R. 3840x2160 (4K e-shift3 – not native 4K).

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# oppo

## HA-1

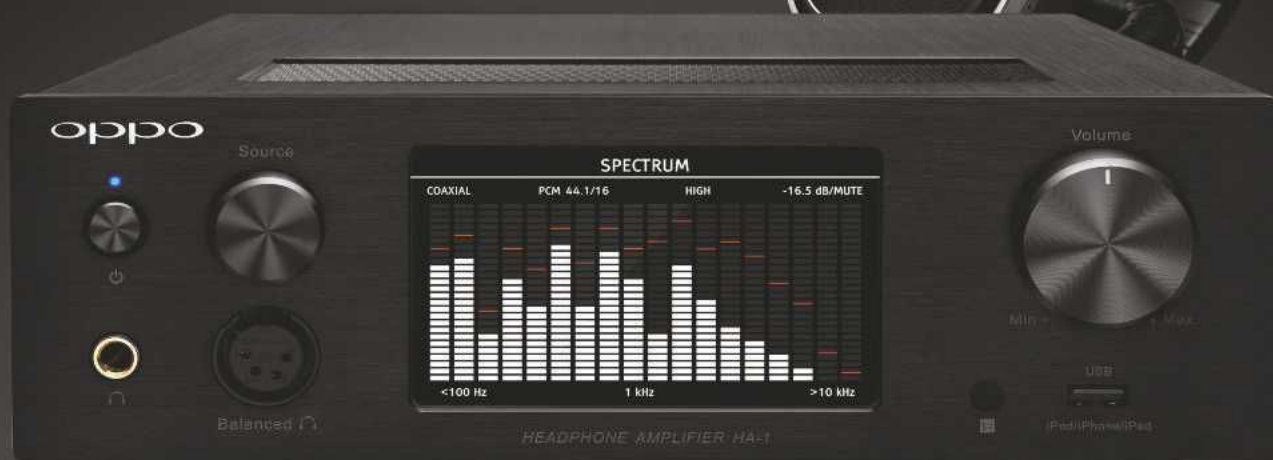
Headphone Amplifier



JULY 2014

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“ Its headphone amplifier stage is up there with the finest ”



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Toroidal power transformer

Fully balanced design



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ESS 9018 Sabre<sup>32</sup> Reference DAC



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